Agenda Item No.

THE VALE OF GLAMORGAN COUNCIL

ECONOMY AND REGENERATION SCRUTINY COMMITTEE:
14 SEPTEMBER 2017

REFERENCE FROM CABINET: 31 JULY 2017

**C50 IMPROVING STRATEGIC TRANSPORT FOR DINAS POWYS (NST) (SCRUTINY COMMITTEE - ENVIRONMENT AND REGENERATION) -**

Agreement was sought for the Welsh Transport Appraisal Guidance (WelTAG) Stage 1 Report undertaken by Arcadis Consulting UK Limited on Improving Strategic Transport for Dinas Powys.

Arcadis Consulting UK Limited was commissioned by the Council in early 2017 to develop and appraise potential options for improving the strategic transport network for Dinas Powys including transport corridors from Biglis roundabout Barry through Dinas Powys to Cardiff via Leckwith, Cogan and Penarth. Appendix A attached to the report provided a map of the Study area. The appraisal of options was in accordance with Welsh Government's latest version (June 2016) of the Welsh Transport Appraisal Guidance (WelTAG). All transport schemes in Wales needed to go through the WelTAG process to be put forward for Welsh Government funding, and accepted schemes for transport funding needed to demonstrate value for money.

The Study was required because of the high traffic flows experienced in the area with frequent traffic congestion causing delays and poor journey time reliability. Further, public transport in the area was at capacity during peak periods of travel and there were limited walking and cycling opportunities. The Study represented an exciting opportunity to improve the quality of connections by all transport modes between Dinas Powys and surrounding areas.

Attached at Appendix B to the report was the WelTAG Stage 1 Report prepared for the Council by Consultants Arcadis Consulting UK Limited, to 'Improve Strategic Transport for Dinas Powys'. The Report consisted of two documents namely; an Impacts Assessment Report and a Strategic Outline Case Report.

The Impacts Assessment Document provided an overview of Dinas Powys including information on its location, demographics, employment, environment and land use characteristics. It also examined access to employment by looking at worker characteristics including the transport mode, destination and distance travelled for work purposes. Further access to Services and Recreation was examined by this Document as well as walking and cycling, rail and bus and highway network provision. Both existing and future proposals and priorities were listed and the work considered the land use commitments as contained in the Vale of Glamorgan Local Development Plan (2017).

Consultation sessions were held to assist with the preparation of the Report. The first was a stakeholder consultation session held on Tuesday 7 March, 2017 at the Parish Hall in Dinas Powys. At this event key organisations, transport providers, local authority representatives and Councillors from the Community Council were present. The event discussed and identified transport problems, opportunities and constraints as well as considering objectives for the Study. The second was a public consultation session held on Monday 13 March, 2017 again at the Parish Hall in Dinas Powys. At this session the public had the opportunity to provide feedback on identified options, opportunities and constraints as well as making suggestions of their own on potential transport solutions.

The public consultation event was well attended and there were ninety five feedback forms returned. The key issues raised by the percentage of respondents related to the need for a bypass (44%), larger trains with more capacity and frequency (43%), improved footpaths and cycle infrastructure (34%), improved road safety for cyclists and pedestrians (21%) and more reliable and frequent bus services (19%). It was noted that respondents had the opportunity to raise as many issues as they wanted so the percentages did not add up to one hundred.

The Strategic Outline Case Document set out the strategic case for change and assessed each of the intervention options to examine how they met the objectives together with the identification of key risks, adverse impacts constraints and dependencies. The appraisal of the extent each option met the objectives was described using the WelTAG seven-point assessment scale. The assessment scale included measures relating to social, environmental, economic and the financial and commercial case for change. The Transport Objectives for the Study that were agreed were as follows:

Objective 1: Support Sustainable Connectivity in Cardiff City Region.
Objective 2: Facilitate and support economic growth.
Objective 3: Improving Health and Wellbeing.
Objective 4: Improved Safety and Security.
Objective 5: Benefits and Minimised impacts on the environment.

As a result of the evidence summarised above seven options were assessed as follows:

A - Do-minimum
B - Enhanced rail services and interchanges
C - Improved bus services and infrastructure
D - Enhanced walking and cycling connectivity
E - On line highway improvements
F - By-pass
G - Multi-Modal Option

The options appraisal to assess this long list of options included considering how the option tackled the identified problems; how the option met the objectives, assessment of risk, consideration of any adverse impacts, constraints and any dependencies.

Option A: 'Do Minimum' (pages 6-7 Arcadis Report attached at Appendix B to the report), assumed the continued delivery of transport enhancements via the Local Transport Grant and utilisation of existing sources of transport funding. It also assumed the continuation of rail and local bus services as well as community transport at a similar level as present using funding similar to existing levels. Further, there was an assumption that there would be continued transport work undertaken by local authorities and stakeholders to deliver improvements to the network. This could have an adverse impact on the objectives set due to the modest levels of funding currently available to be invested in transport infrastructure and public transport services. In addition there would continue to be increases in population and traffic growth in Dinas Powys which would exceed any investment putting further pressure on the existing transport network and having a negative impact on the environment.

Option F: 'By-Pass' (pages 16-18 Arcadis Report attached at Appendix B to the report), assumed a similar alignment to that included in the former Adopted Unitary Development Plan south and east of Dinas Powys connecting to the Merrie Harrier Junction. The By-Pass would be a single carriageway link, although this assumption would need a great deal of further

work to determine. The By-Pass would need to include active travel connections for walking and cycling. Significant junction improvements would also be required as part of any proposal. Potentially a By-Pass could improve local journey times for drivers and buses depending on the time savings on the new route compared to the existing route through Dinas Powys. There would also be possible improved air quality and noise benefits for residents living alongside Cardiff Road and potentially road safety benefits depending on the level of traffic that decided to use the new link.

Option G: 'Multi-Modal' (pages 19-21 Arcadis Report attached at Appendix B to the report), involved a package of short, medium and long term improvements and enhancements to bus and rail services and their associated infrastructure such as parking. Also there would be additional cycling and walking schemes and improvements to key junctions with the implementation of appropriate road safety measures. This Option had the potential to improve accessibility and road safety together with better journey time reliability. There would also be health and wellbeing benefits associated with the walking and cycling improvements with the impact on the environment being generally neutral. There may be high costs associated with any third party land that might be required. Additional work would be necessary to consider further the various options and impacts.

At the meeting, the Cabinet Member for Neighbourhood Services and Transport stated that a Dinas Powys By-Pass would assist traffic flows over the eastern Vale. This was because, in order to avoid the current delays at Dinas Powys, some traffic from Barry now diverted travelling to Cardiff via Sully and Penarth or even via Port Road, adding to congestion in other areas. The Cabinet Member also referred to the strategic Review Group of the WelTAG report attached at Appendix B to the report, stating that he wished to make an additional resolution to add local representation onto the group.

After this item had been presented, the Cabinet Member for Housing and Building Services asked if the route of the By-Pass referred to as Option F in pages 16-18 of the Arcadis Report attached at Appendix B to the report, had been agreed. In response, the Cabinet Member for Neighbourhood Services and Transport confirmed that no decision on a route had been made and noted that the Arcadis report assumed a route similar to that in the former adopted Unitary Development Plan.

Finally, the Cabinet Member for Regeneration and Planning asked when Cabinet should expect the Stage 2 WelTAG report. The Cabinet Member for

Neighbourhood Services and Transport stated that an update on the Stage 2 WelTAG report should be reported in late September.

This was a matter for Executive decision

Cabinet, having considered the report and all the issues and implications contained therein

RESOLVED –

(1) T H A T the report be referred to the Scrutiny Committee (Environment and Regeneration) for consideration.

(2) T H A T subject to resolution 1 above, the contents of the report and accompanying appendices be noted and agreed.

(3) T H A T subject to resolution 1 above, a Stage 2 Welsh Transport Appraisal Guidance (WelTAG) Report be undertaken for Dinas Powys for the Stage 1 short listed options of Do-Minimum, Multi Modal and Bypass.

(4) T H A T subject to resolution 1 above, the Stage 2 Welsh Transport Appraisal Guidance (WelTAG) Report, once completed, be presented to Cabinet and the Scrutiny Committee (Environment and Regeneration) for consideration in Spring 2018.

(5) T H AT the Review Group established to guide the Welsh Transport Appraisal Guidance (WelTAG) process should include local business representatives, to be agreed by the Director of Environment and Housing and the Cabinet Member for Neighbourhood Services and Transport.

<u>Reasons for decisions</u>

(1) To ensure that the views of the relevant Scrutiny Committee were considered prior to a final decision on the Stage 1 report being taken by Cabinet.

(2) To seek Member's approval of the Stage 1 Arcadis Consulting UK Limited Report on the Dinas Powys Transport Network.

(3) To progress the Dinas Powys Transport Network Study to the next stage using the relevant Welsh Government transport guidance.

(4) To seek Member's views on the Stage 2 report, once completed.

(5) To include local business representation on the strategic Review Group.

Attached as Appendix – Report to Cabinet – 31 July 2017

# The Vale of Glamorgan Council

# Cabinet Meeting: 31 July, 2017

# Report of the Cabinet Member for Neighbourhood Services and Transport

# Improving Strategic Transport for Dinas Powys

## Purpose of the Report

1. To agree the Welsh Transport Appraisal Guidance (WelTAG) Stage 1 Report undertaken by Arcadis Consulting UK Limited on Improving Strategic Transport for Dinas Powys.

## Recommendations

1. THAT this report is referred to the Scrutiny Committee (Environment and Regeneration) for consideration.
2. THAT subject to recommendation 1, Cabinet notes and agrees the contents of this report and accompanying appendices.
3. THAT subject to recommendation 1, a Stage 2 Welsh Transport Appraisal Guidance (WelTAG) Report is undertaken for Dinas Powys for the Stage 1 short listed options of Do-Minimum, Multi Modal and Bypass.
4. THAT subject to recommendation 1, the Stage 2 Welsh Transport Appraisal Guidance (WelTAG) Report, once completed is presented to Cabinet for consideration and the Environment and Regeneration Scrutiny Committee in Spring 2018.

## Reasons for the Recommendations

1. To ensure that the views of the relevant Scrutiny Committee are considered prior to a final decision on the Stage 1 report being taken by Cabinet.
2. To seek Cabinet approval of the Stage 1 Arcadis Consulting UK Limited Report on the Dinas Powys Transport Network.
3. To progress the Dinas Powys Transport Network Study to the next stage using the relevant Welsh Government transport guidance.
4. To seek Cabinet's views on the Stage 2 report, once completed.

## Background

2. Arcadis Consulting UK Limited was commissioned by the Council in early 2017 to develop and appraise potential options for improving the strategic transport network for Dinas Powys including transport corridors from Biglis roundabout Barry through Dinas Powys to Cardiff via Leckwith, Cogan and Penarth. Appendix A provides a map of the Study area. The appraisal of options was in accordance with Welsh Government's latest version (June 2016) of the Welsh Transport Appraisal Guidance (WelTAG). All transport schemes in Wales need to go through the WelTAG process to be put forward for Welsh Government funding, and accepted schemes for transport funding need to demonstrate value for money.

3. WelTAG Stage 1 should report on the issue of concern, explore its context and present a list of possible solutions. Further, the Stage 1 Report needs to decide whether there are any possible solutions within the transport sector that are worth pursuing and to select a short list of options for more detailed consideration at Stage 2. Further information on WelTAG can be found here: https://consultations.gov.wales/sites/default/files/consultation_doc_files/161208-weltag-consultation-en.pdf

4. The Study was required because of the high traffic flows experienced in the area with frequent traffic congestion causing delays and poor journey time reliability. Further, public transport in the area is at capacity during peak periods of travel and there are limited walking and cycling opportunities.

5. The Study represents an exciting opportunity to improve the quality of connections by all transport modes between Dinas Powys and surrounding areas.

## Relevant Issues and Options

6. Attached at Appendix B is the WelTAG Stage 1 Report prepared for the Council by Consultants Arcadis Consulting UK Limited, to 'Improve Strategic Transport for Dinas Powys'. The Report consists of two documents namely; an Impacts Assessment Report and a Strategic Outline Case Report.

7. The Impacts Assessment Document provides an overview of Dinas Powys including information on its location, demographics, employment, environment and land use characteristics. It also examines access to employment by looking at worker characteristics including the transport mode, destination and distance travelled for work purposes. Further access to Services and Recreation is examined by this Document as well as walking and cycling, rail and bus and highway network provision. Both existing and future proposals and priorities are listed and the work considers the land use commitments as contained in the Vale of Glamorgan Local Development Plan (2017).

8. Consultation sessions were held to assist with the preparation of the Report. The first was a stakeholder consultation session held on Tuesday 7th March 2017 at the Parish Hall in Dinas Powys. At this event key organisations, transport providers, local authority representatives and Councillors from the Community Council were present. The event discussed and identified transport problems, opportunities and constraints as well as considering objectives for the Study. The second was a public consultation session held on Monday 13th March 2017 again at the Parish Hall in Dinas Powys. At this session the public had the opportunity to provide feedback on identified options, opportunities and constraints as well as making suggestions of their own on potential transport solutions.

9. The public consultation event was well attended and there were ninety five feedback forms returned. The key issues raised by the percentage of respondents related to the need for a bypass (44%), larger trains with more capacity and frequency (43%), improve footpaths and cycle infrastructure (34%), improve road safety for cyclists and pedestrians (21%) and more reliable and frequent bus services (19%). It should be noted that respondents had the opportunity to raise as many issues as they wanted so the percentages do not add up to one hundred.

10. The transport problems identified in Dinas Powys from the Report included:

- Poor quality bus stops with limited facilities.
- Poor railway station interchange facilities including insufficient car parking.
- Overcrowding on peak rail and bus services.
- Poor infrastructure and local walking and cycling connectivity.
- The main road through Dinas Powys A4055 creates severance within the community and adversely affects access to schools and other services.
- High local traffic flows lead to congestion, capacity issues at junctions, environmental impacts including air quality, noise pollution and unreliable journey times.
- High use of the car for local and regional trips including journeys to work.
- Occurrence of accidents along key routes and in particular the A4055.
- Concern that residential land use development will compound the existing traffic issues and further increase pressure on public transport.

11. The opportunities for transport in Dinas Powys identified in the Report included:

- Proximity to major employment areas and services means there is a large volume of transport movements to and from Cardiff, from Dinas Powys, Barry and the Vale.
- Significant facilities and services are available in close proximity to Dinas Powys with potential for access by more sustainable modes of transport.
- Dinas Powys has good potential for accessibility by non car modes of transport.
- Metro improvements offer opportunities for more frequent, higher capacity rail services.
- There are opportunities for bus priority and service enhancements as well as walking and cycling Improvements.
- A number of options exist for highway junction and off line capacity improvements as well as options for Road Safety improvements.
- There are possibilities for interchange improvements in terms of services offered and facilities provided.
- The new Wales rail franchise is due to commence in October 2018 and offers opportunities for improved services and facilities.
- More park and ride facilities could be made available.
- The promotion and marketing of all transport modes.

  Options to reduce the adverse environmental impacts of the transport system with new development to be accessible by sustainable modes.

12. The Constraints for transport in Dinas Powys identified in the Report included:

- Traffic issues which are related to the village being located on a strategic transport corridor and these issues are difficult to separate from other measures needed in Dinas Powys.
- The land use policy context which can also be seen as an opportunity.
- Potential need for third party land to deliver transport improvements.
- Funding availability to deliver improvements.
- The location of existing services and facilities within Dinas Powys which can also be seen as an opportunity.

13. The Strategic Outline Case Document sets out the strategic case for change and assesses each of the intervention options to examine how they meet the objectives together with the identification of key risks, adverse impacts constraints and dependencies. The appraisal of the extent each option meets the obejctives is described using the WelTAG seven-point assessment scale. The assessment scale includes measures relating to social, environmental, economic and the financial and commercial case for change. The Transport Objectives for the Study that were agreed were as follows:

    Objective 1: Support Sustainable Connectivity in Cardiff City Region.

    Objective 2: Facilitate and support economic growth.

    Objective 3: Improving Health and Wellbeing.

    Objective 4: Improved Safety and Security.

    Objective 5: Benefits and Minimised impacts on the environment.

14. As a result of the evidence summarised above seven options were assessed as follows:

    A - Do-minimum

    B - Enhanced rail services and interchanges

    C - Improved bus services and infrastructure

    D - Enhanced walking and cycling connectivity

    E - On line highway improvements

    F - By-pass

    G - Multi-Modal Option

15. The options appraisal to assess this long list of options included considering how the option tackles the identified problems; how the option meets the objectives, assessment of risk, consideration of any adverse impacts, constraints and any dependencies.

16. **Option A**: 'Do Minimum' (pages 6-7 Arcadis Report Appendix B), assumes the continued delivery of transport enhancements via the Local Transport Grant and utilisation of existing sources of transport funding. It also assumes the continuation of rail and local bus services as well as community transport at a similar level as present using funding similar to existing levels. Further, there is an assumption that there will be continued transport work undertaken by local authorities and stakeholders to deliver improvements to the network. This could have an adverse impact on the objectives set due to the modest levels of funding currently available to be invested in transport infrastructure and public transport services. In addition there

will continue to be increases in population and traffic growth in Dinas Powys which will exceed any investment putting further pressure on the existing transport network and having a negative impact on the environment.

17. **Option F**: 'By-Pass' (pages 16-18 Arcadis Report Appendix B), assumes a similar alignment to that included in the former Adopted Unitary Development Plan south and east of Dinas Powys connecting to the Merrie Harrier Junction. The By-Pass would be a single carriageway link, although this assumption would need a great deal of further work to determine. The By-Pass would need to include active travel connections for walking and cycling. Significant junction improvements would also be required as part of any proposal. Potentially a By-Pass could improve local journey times for drivers and buses depending on the time savings on the new route compared to the existing route through Dinas Powys. There would also be possible improved air quality and noise benefits for residents living alongside Cardiff Road and potentially road safety benefits depending on the level of traffic that decides to use the new link.

18. **Option G**: 'Multi-Modal' (pages 19-21 Arcadis Report Appendix B), involves a package of short, medium and long term improvements and enhancements to bus and rail services and their associated infrastructure such as parking. Also there would be additional cycling and walking schemes and improvements to key junctions with the implementation of appropriate road safety measures. This Option has the potential to improve accessibility and road safety together with better journey time reliability. There would also be health and wellbeing benefits associated with the walking and cycling improvements with the impact on the environment being generally neutral. There may be high costs associated with any third party land that might be required. Additional work will be necessary to consider further the various options and impacts.

## Resource Implications (Financial and Employment)

19. The total cost of undertaking this Study was £18,118 which was funded by Welsh Government and included payments to the consultants, officer time and venue hire for the consultation. Transport funding has been secured from Welsh Government to deliver a Stage 2 WelTAG study during 2017/18.

## Sustainability and Climate Change Implications

20. Passenger transport provision assists in sustainability and helps to reduce car use for the journey to and from establishments and helps to reduce traffic congestion, particularly at schools and social services venues. By-Passes can offer environmental improvements to households living alongside busy traffic routes like Dinas Powys.

## Legal Implications (to Include Human Rights Implications)

21. There are no legal implications associated with this Report.

## Crime and Disorder Implications

22. Improvements to transportation systems can assist with providing a safe environment for passengers to travel to and from their home for employment, and leisure activities.

## Equal Opportunities Implications (to include Welsh Language issues)

23. The provision of a well organised transport network helps to increase mobility and accessibility.

## Corporate/Service Objectives

24. The provision of a reliable, efficient and value for money transport network is recognised by the Visible Service and Transport Plan (2017). The relevant Wellbeing Outcome is An Environmentally Responsible and Prosperous Vale with the relevant Wellbeing Objective being to Promote regeneration, economic growth and employment.

## Policy Framework and Budget

25. This report is a matter for Executive decision by Cabinet.

## Consultation (including Ward Member Consultation)

26. The Ward members in Dinas Powys, Penarth, Sully, Llandough and east Barry have been consulted on this Report.

## Relevant Scrutiny Committee

27. Environment and Regeneration

## Background Papers

None

## Contact Officer

Emma Reed Head of Visible Services and Transport

## Officers Consulted

Legal - Committee Reports
Accountant - Environment and Housing Services
Head of Regulatory Services
Policy Officer (Procurement)
Head of Regeneration and Planning
Operational Manager Highways and Engineering
Principal Road Safety and Transport Officer
Passenger Transport Manager
Operational Manager Development Management

## Responsible Officer:

Miles Punter - Director of Environment and Housing Services

# Dinas Powys Transport Network Study area

Legend

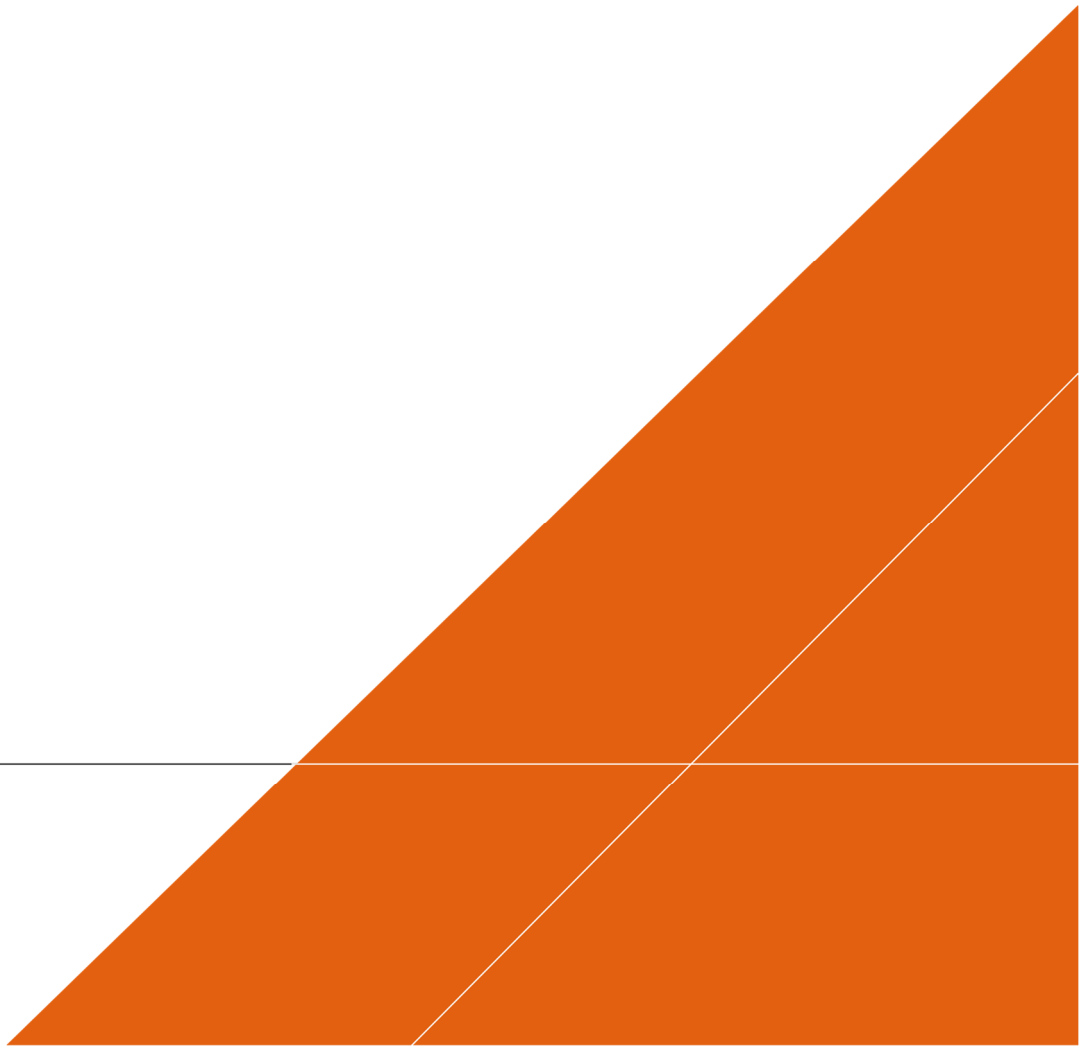
- Dinas Powys Transport Network Study area
- Most Popular Cycle Routes
- LDP Cycling Network
- Origin Points
- Destination Points
- Primary School
- Secondary School

ARCADIS Design & Consultancy for natural and built assets

# IMPROVING STRATEGIC TRANSPORT FOR DINAS POWYS

## WelTAG Stage One: Strategic Outline Case Report

JULY 2017



Incorporating

EC HARRIS BUILT ASSET CONSULTANCY

Hyder

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# VERSION CONTROL

| Version | Date | Author | Changes |
|---|---|---|---|
| D01 | 07/04/2017 | M. FRY | - |
| D02 | 07/07/2017 | M. FRY | FINAL ISSUE |

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**WelTAG Guidance Summary**

## APPENDIX B

**WelTAG Stage One: Impacts Assessment Report**

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**Stakeholder Consultation**

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**Public Consultation**

# Executive Summary

## Overview

Arcadis Consulting (UK) Limited has been commissioned by Vale of Glamorgan Council to develop and appraise potential options for improving the strategic transport network encompassing corridors from Biglis roundabout (Barry) through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The appraisal of options has been undertaken in accordance with the Welsh Government's latest draft version of WelTAG (June 2016). A summary of the guidance is presented in Appendix A.

This WelTAG report presents the development, appraisal and evaluation of transport related projects and has been undertaken with the involvement of key stakeholders. This report presents the Stage One: Strategic Outline Case of the WelTAG process. The WelTAG guide states that the purpose of the Stage One: Strategic Outline Case is to *'understand the issue of concern, explore its context and to present a wide list of possible solutions, with sufficient clarity and depth for the review group to be able to decide whether there are any possible solutions within the transport sector that are worth pursuing and to select a short list of options for more detailed consideration'.*

## Impacts Assessment Report

In accordance with the guidance, the WelTAG Stage One: Strategic Outline Case Report is supported by an Impacts Assessment Report, as presented in Appendix B. The Impacts Assessment Report *'is a live document which is maintained and grows throughout the five WelTAG stages. It becomes a permanent record of the appraisal work on the proposed transport intervention. It contains the detailed evidence behind the summary information provided to decision makers in the Stage reports'.*

The Impacts Assessment Report provides a summary of the policy framework, the context of the study, detailed information which informed the strategic case and the data sources used within the study.

## Study Area

The study area encompasses the existing transport corridors from Biglis Roundabout, Barry through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The assessment of existing transport corridors shall consider the highway network and public transport within and immediately surrounding Dinas Powys.

## Stakeholder Consultation

A stakeholder workshop was undertaken on Tuesday 7th March 2017 at the Parish Hall, Britway Road, Dinas Powys to which representatives from key stakeholders from across the area representing key employers, public organisations, transport providers and local authority were invited. Appendix C presents a list of the stakeholders who attended the workshop.

The workshop informed all of the key stages of the strategic case, whereby stakeholders were asked to discuss and identify problems, opportunities and constraints, set objectives and identify and discuss potential transport options. In order to inform the discussions at the workshops a draft list of problems, opportunities and constraints were presented. These were derived from a review of existing policy and background reports/ data specific to Dinas Powys.

Initial objectives were provided as a starter for the discussion, alongside a list of potential transport solutions. The presentation from the workshop is presented in Appendix C. At the workshop stakeholders discussed the problems, objectives and transport options in groups, which were then fed back to the group as a whole. The output from the stakeholder workshop have been used to inform this strategic case.

## Public Consultation

A public consultation event was held on Monday 13th March 2017 between 13:30 and 18:30 at the Parish Hall. The event afforded members of the public the opportunity to provide feedback on the identified options, opportunities, and constraints, as well as consideration and suggestions for the objectives and potential transport options. The event was attended by members of the Arcadis project team and Vale of Glamorgan Council officers to facilitate discussion, with specific workstations and feedback forms provided to capture

key information from attendees. The output of the public consultation has also been used to inform this strategic case.

## The Case for Change

The highway network forms the backbone of the transport network within the study area despite the availability of existing public transport services. However, the existing highway is subject to high traffic flows that frequently lead to congestion and delay at key junctions that impacts upon accessibility and journey time reliability. Studies have demonstrated that public transport services are at or near to capacity during peak commuting periods and walking and cycling infrastructure is limited throughout the study area.

Overall the study area retains reasonable access to services and jobs (Welsh Index of Multiple Deprivation (WIMD) 2014) however Dinas Powys is exposed to high levels of through traffic from nearby urban settlements most notably Barry and Cardiff. Local Development Plan (LDP) proposals are also anticipated to increase pressure on the local highway network over the coming years.

There is subsequently an opportunity to introduce and establish a more robust transport network by improving the quality of connections between Dinas Powys and the surrounding area in order to help mitigate the impact and dominance of the private car and establish interconnectivity to more sustainable modes of transport.

It is important that the assessment works towards specifically identifying suitable value for money options to improve connectivity and journey times along this corridor, building on the schemes already identified to improve local and strategic accessibility. Hence this WelTAG appraisal has been commissioned to strategically develop, appraise and evaluate transport related projects to improve the connectivity affecting Dinas Powys.

## Options

Following the discussions with stakeholders the long list of options considered within this WelTAG report are:

- Option A: Do-minimum
- Option B: Enhanced rail services and interchange
- Option C: Improved bus services and infrastructure
- Option D: Enhanced walking and cycling connectivity
- Option E: On-line highway improvements
- Option F: By-pass
- Option G: Multi-modal option

## Options to be Taken Forward

Following the appraisal of the seven options it is recommended that the following options are taken forward to Stage Two for further investigation into the impacts of the option:

- Option A: Do-minimum
- Option F: By-pass
- Option G: Multi-modal option

The do-minimum option is required as a reference case for consideration of transport options. The by-pass option is recommended to be included in the Stage Two appraisal as it could bring benefits in terms of road traffic reduction in the village. However, without scheme costs, traffic forecasting and cost benefit analysis, it is not possible to appraise the value for money of a by-pass. The multi-modal option is recommended to be included as it potentially brings significant benefits, but also requires further analysis to understand the impacts and value for money.

# 1 Introduction

## 1.1 Purpose of the Study

Arcadis has been commissioned by Vale of Glamorgan Council to develop and appraise potential options for improving the strategic transport network encompassing corridors from Biglis roundabout (Barry) through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The appraisal of options has been undertaken in accordance with the Welsh Government's latest draft version of WelTAG (June 2016). This WelTAG report presents the development, appraisal and evaluation of transport related projects and has been undertaken with the involvement of key stakeholders and the general public. This report presents the Stage One: Strategic Outline Case of the WelTAG process. A summary of the draft WelTAG guidance is provided in Appendix A.

## 1.2 The Study Area

The study area encompasses the existing transport corridors from Biglis Roundabout, Barry through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The assessment of existing transport corridors considers the highway network and public transport within, through and immediately surrounding Dinas Powys.

## 1.3 WelTAG Stage One: Strategic Outline Case

The WelTAG guidance states that the purpose of the Stage One: Strategic Outline Case is to 'understand the issue of concern, explore its context and to present a wide list of possible solutions, with sufficient clarity and depth for the review group to be able to decide whether there are any possible solutions within the transport sector that are worth pursuing and to select a short list of options for more detailed consideration'. As such, this Stage One: Strategic Outline Case report:

- Identifies the issue that needs addressing supported by evidence;
- Establishes objectives;
- Develops a long list of possible solutions, including non-transport interventions;
- Assesses a long list of options against the objectives;
- Assesses a long list of options against the impacts criteria; and
- Selects a short list of options to take forward to the next stage.

This Stage One report follows the principle of proportionate appraisal. It presents a largely qualitative appraisal, whilst providing stakeholders and decision makers with greater information and understanding of the problems and potential options. The accompanying Impacts Assessment Report for this Stage One appraisal is presented in Appendix B. In accordance with the WelTAG guidance the significance and scale of the impacts throughout the assessment has been appraised using a seven-point scale, as presented in Table 1.

*Table 1 WelTAG Seven-Point Assessment Scale*

| | |
|---|---|
| Large beneficial | +++ |
| Moderate beneficial | ++ |
| Slight beneficial | + |
| Neutral | 0 |
| Slight adverse | - |
| Moderate adverse | -- |
| Large adverse | --- |

## 1.4 Reason for the Study

The highway network forms the backbone of the transport network within the study area despite the availability of existing public transport services. However, the existing highway is subject to high traffic flows that frequently lead to congestion and delay at key junctions that impacts upon accessibility and journey time reliability. Studies have demonstrated that public transport services are at or near to capacity during peak commuting periods and walking and cycling infrastructure is limited throughout the study area.

Overall the study area retains reasonable access to services and jobs (Welsh Index of Multiple Deprivation (WIMD) 2014) however Dinas Powys is exposed to high levels of through traffic from nearby urban settlements most notably Barry and Cardiff. LDP proposals are also anticipated to increase pressure on the local highway network over the coming years.

There is subsequently an opportunity to introduce and establish a more robust transport network by improving the quality of connections between Dinas Powys and the surrounding area in order to help mitigate the impact and dominance of the private car and establish interconnectivity to more sustainable modes of transport.

It is important that the assessment works towards specifically identifying suitable value for money options to improve connectivity and journey times along this corridor, building on the schemes already identified to improve local and strategic accessibility. Hence this WelTAG appraisal has been commissioned to strategically develop, appraise and evaluate transport related projects to improve the connectivity affecting Dinas Powys.

## 1.5 Context

A summary of the policy framework within which the Stage One report fits is presented in Section 2 of the Stage One: Strategic Outline Case Impacts Assessment Report (Appendix B), alongside the context of the study in terms of the existing travel infrastructure and travel trends presented in Section 3.

## 1.6 Report Structure

This WelTAG report presents the Stage One: Strategic Outline Case WelTAG report, together with the Impacts Assessment Report presented in Appendix B. In accordance with the WelTAG guidance the structure of this report is as follows:

- Chapter 2 sets out the strategic case;
- Chapter 3 the transport case;
- Chapter 4 the delivery case;
- Chapter 5 the financial case;
- Chapter 6 the commercial case; and
- Chapter 7 concludes the Stage One: Strategic Outline Case WelTAG report with a summary of the key conclusions of the appraisal and details on the next steps to be taken forward.

# 2 Strategic Case

## 2.1 Overview

The Strategic Case *'addresses the need for change. It presents an evidence based description of the current situation, describes the likely funding situation if no action is taken and presents the reasons why an intervention is required'.*

## 2.2 Consultation

### Stakeholder Consultation

A stakeholder workshop was undertaken on Tuesday 7th March 2017 at the Parish Hall, Britway Road, Dinas Powys to which representatives from key stakeholders from across the region representing key employers, public organisations, transport providers and local authority were invited. Appendix C presents a list of the stakeholders who attended the workshop.

The workshop informed all of the key stages of the strategic case, whereby stakeholders were asked to discuss and identify problems, opportunities and constraints, set objectives and identify and discuss potential transport options. In order to inform the discussions at the workshops a draft list of problems, opportunities and constraints were presented. These were derived from a review of existing policy and background reports/ data specific to Dinas Powys.

Initial objectives were provided as a starter for the discussion, alongside a list of potential transport solutions. The presentation from the workshop is presented in Appendix C. At the workshop stakeholders discussed the problems, objectives and transport options in groups, which were then fed back to the group as a whole. The output from the stakeholder workshop have been used to inform this strategic case.

### Public Consultation

A public consultation event was held on Monday 13th March 2017 between 13:30 and 18:30 at the Parish Hall. The event afforded members of the public the opportunity to provide feedback on the identified options, opportunities, and constraints, as well as consideration and suggestions for the objectives and potential transport options. The event was attended by members of the Arcadis project team and Vale of Glamorgan Council officers to facilitate discussion, with specific workstations and feedback forms provided to capture key information from attendees. The output of the public consultation has also been used to inform this strategic case.

## 2.3 Policy Context

The key policies at the local, regional and national levels, highlighting the policies and proposed delivery programmes and schemes (subject to the availability of funding) that are relevant to this study are presented in the Impacts Assessment Report (Appendix B).

## 2.4 Identification of Problems

The identified issues that require addressing are summarised below, which have been identified through analysing local data, reference to previous feasibility reports and policy, and consultation with stakeholders and members of the public. The identified problems are as presented in Table 2.

*Table 2 Identification of Problems*

| Problem |
|---|
| P01<br>Poor quality bus stops with limited facilities |
| P02<br>Poor interchange facilities at railway stations (including poor parking opportunities) |

| Problem |
|---|
| P03<br>Overcrowding on peak rail services |
| P04<br>Overcrowding on peak bus services |
| P05<br>Poor infrastructure and local connectivity by walking and cycling |
| P06<br>A4055 creating severance within the community (e.g. access to schools and other facilities/ services) |
| P07<br>High local traffic flows leading to congestion, capacity issues at junctions, environmental impacts (air quality and noise pollution) and unreliable journey times |
| P08<br>High use of the car for local and regional trips (e.g. journeys to work) |
| P09<br>Occurrence of accidents along key strategic routes, especially the A4055 |
| P10<br>Residential land use development within Vale of Glamorgan will compound existing traffic issues and increase pressure on public transport services |

## 2.5 Objectives for the Intervention

The objectives for the intervention have been derived from general and transport-specific objectives as set by the Welsh Government. Section 4 of the *Impacts Assessment Report* in Appendix B sets out how stakeholders have informed the development of the objectives and how the proposed objectives positively contribute to Welsh Government policy.

The final objectives for the intervention are as outlined in Table 3.

*Table 3 Final Proposed Objectives*

| Reference | Heading | Description |
|---|---|---|
| Objective 1 | Support Sustainable Connectivity in Cardiff City Region | Improve the efficiency, reliability, resilience, and connectivity of movement (people and freight by sustainable modes).<br>Reduce community severance in Dinas Powys including improvements to local connectivity |
| Objective 2 | Facilitate and Support Economic Growth | Promote inclusive, integrated and affordable access to key services and employment.<br>Address issues of over-capacity on travel modes. |
| Objective 3 | Improving Health & Wellbeing | Improving and promoting active travel (both recreation and necessary trips). |

| Reference | Heading | Description |
|---|---|---|
| | | Improve air quality and reduce noise pollution within the community |
| Objective 4 | Improved Safety & Security | To improve actual and perceived safety and security of travel by all modes. |
| Objective 5 | Benefits and Minimised Impacts on the Environment | Improve local and global environment (natural and built) and minimise negative impacts.<br>Adaptation to the effects of climate change.<br>Improve air quality and reduce noise pollution within the community |

## 2.6 Developing Options

The next stage of the WelTAG process is to develop options that alleviate the identified problems and achieve the objectives. At the stakeholder workshop, stakeholders were asked to identify and discuss potential options to improve the strategic transport connections from and through Dinas Powys. A number of proposals were generated including a do-minimum in advance of the stakeholder workshop, in order to inform and encourage discussion. The options were taken forward to the public consultation event to establish a robust assessment of the potential options available and to work towards addressing the identified problems affecting Dinas Powys. Following the discussions by stakeholders and feedback arising from the public consultation, the long list of options that are considered within this WelTAG report encompass:

- Option A: Do-minimum
- Option B: Enhanced rail services and interchange
- Option C: Improved bus services and infrastructure
- Option D: Enhanced walking and cycling connectivity
- Option E: On-line highway improvements
- Option F: By-pass
- Option G: Multi-modal option

## 2.7 Appraisal of Options

At this early stage in the WelTAG process high level options have been identified and defined in order to determine the potential impacts of each option. This section describes each of the options in turn, how it tackles the identified problems, how it meets the objectives, as well as key risks, adverse impacts, constraints and dependencies. The appraisal of the extent the option meets the objectives is described using the WelTAG seven-point assessment scale as set out in Table 1.

| Option A: Do-Minimum | | | |
|---|---|---|---|
| **Description** | | Assume continued delivery of transport enhancements via the Local Transport Plan and utilising existing sources of funding, but assumes no step change in the level of funding or delivery of any major transport enhancements within the study area (assumes current levels of investment).<br>Assumes the continuation of rail services, local bus services and community transport at a similar level as present utilising funding at similar levels to existing.<br>Assumes continued work by local authorities and stakeholders to deliver improvements to the transport network, with the overall aim of addressing the identified problems and the outcomes of the relevant transport polices. | |
| **How it tackles the problems** | | Limited available funding (both capital and revenue) and resources are unlikely to make a step difference in overcoming the identified problems. | |
| **Objectives** | **Overall** | Overall, the do-minimum option is considered to have an adverse effect at meeting the objectives, due to the modest levels of funding currently able to be invested in transport infrastructure and public transport services. It subsequently assumes that background increases in population and traffic growth exceed investment provision to mitigate increasing impacts and pressure on the existing transport network.<br>It should be noted that policies and programmes are in place to facilitate improved transport services but limited funding means that beneficial enhancements are currently difficult to achieve.<br>A negative impact on the environment is forecast as the traffic levels through Dinas Powys would continue to increase, whilst the limited funding means that there is currently poor to moderate accessibility to services and a moderate road safety record, as well as a limited promotion and delivery of transport schemes to promote health and well-being.<br>These problems cannot be addressed without sufficient committed funding and sources to have a beneficial impact. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | - |
| | **2** | Facilitate Economic Growth | - |
| | **3** | Improving Health and Well-being | - |
| | **4** | Improved Safety and Security | - |
| | **5** | Benefits and Minimised Impacts on the Environment | - |
| **Key Risks** | | Potential reductions in available funding and resources leading to poor investment in public transport and local highway infrastructure.<br>Do minimum option may not be publically acceptable, and not being seen to tackle existing issues. | |
| **Adverse Impacts** | | The anticipated increase in annual traffic volumes (general background traffic growth plus local LDP development) is anticipated to have an adverse impact on the environment compared to the existing situation.<br>Potential for a deterioration in highway safety, especially along the A4055 and at key junctions.<br>Potential for adverse socio-economic opportunities with reducing accessibility to sustainable travel opportunities.<br>Continued overcrowding on public transport services impacting on accessibility to jobs and services. | |

| Option A: Do-Minimum | |
|---|---|
| | Deterioration of the Cardiff Road corridor encompassing environmental issues, increase journey time delay and anticipated worsening of highway junction capacity. |
| **Constraints** | The option is considered to be relatively unconstrained although any restriction with regard to the availability of funding and resources could jeopardise standard maintenance/ enhancement proposals.<br>Large strategic urban settlements situated close to Dinas Powys which constrain the ability of measures in Dinas Powys to meet objectives. |
| **Dependencies** | Continued development of centralised services and socio-economic opportunities within key urban settlements surrounding Dinas Powys adding increasing pressure on the existing transport infrastructure and services, as well as an increased need to travel to access these services. |

| Option B: Enhanced Rail Services and Interchange | | | |
|---|---|---|---|
| **Description** | | Implementation of enhanced regional rail passenger services and an increase in passenger capacity to and from Dinas Powys and Eastbrook railway stations interconnecting within the Cardiff City Region.<br><br>It is assumed that any enhancement in passenger services would be in relation to existing [direct] destinations encompassing services to Bridgend, Barry, Merthyr Tydfil and Aberdare, and all stops in-between (including Cardiff Central, Pontypridd and Rhoose/ Cardiff International Airport as key destinations).<br><br>At this stage, it is assumed that the option would focus on heavy rail. Any proposed modernisation and electrification of the Valley Lines, including the Vale of Glamorgan Line, could afford the potential for light rail services interconnecting between Dinas Powys and Eastbrook railway stations and key local urban centres including Barry and Cardiff (subject to confirmation through Metro proposals).<br><br>The proposal assumes that station interchange facilities are robustly enhanced including opportunity for enhanced park & ride facilities (potentially on and/ or off-site), passenger information, safety & security measures, waiting facilities and accessibility (subject to a detailed audit and feasibility assessment identifying existing gaps in provision).<br><br>The new Wales rail franchise and Cardiff City Region Metro development proposals are assumed to be the likely mechanism for taking forward the enhancement of passenger services and infrastructure at both Dinas Powys and Eastbrook railway stations. | |
| **How it tackles the problems** | | Option B has the potential to tackle the following problems: P3 / P4 / P7 / P8 / P9 / P10.<br><br>Option B has the potential to reduce the dependency on the private car and encourage a greater proportion of journeys to be undertaken by public transport. There are resultant environmental benefits from encouraging people to shift modes and to become less dependent on the private car.<br><br>Option B has the potential to increase socio-economic inclusion by providing an increasingly viable and convenient alternative transport option for people to access jobs and services. | |
| **Objectives** | **Overall** | Option B is considered to have a positive impact on access to key destinations, services and employment, through delivering enhanced public transport services, encompassing a large beneficial impact with regard to supporting sustainable connectivity in the Cardiff City Region.<br><br>Option B is considered to have a slight beneficial impact on health and well-being and safety and security.<br><br>The option has the potential to reduce the dependency on the private car and potentially reduce air pollution and help mitigate any adverse noise pollution that may be experienced within the study area. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | +++ |
| | **2** | Facilitate Economic Growth | + |
| | **3** | Improving Health and Well-being | + |
| | **4** | Improved Safety and Security | + |
| | **5** | Benefits and Minimised Impacts on the Environment | + |

| Option B: Enhanced Rail Services and Interchange | |
|---|---|
| **Key Risks** | Physical improvements at stations would require a low to moderate level of capital investment, subject to an agreed scope of works (cost estimates would be subject to analysis).<br><br>Passenger service enhancements are likely to require significant investment and subsequent subsidisation. The Welsh Government has provided Arriva Trains Wales with £700m between 2011/12 and 2014/15 in franchise subsidy payments, including funding for services additional to those within the franchise. Arriva Trains Wales, whose subsidy per passenger kilometres grew to 13.1p in 2013- 14.<br><br>This would be dependent on a range of funding sources, which are uncertain particularly given the future loss of EU monies.<br><br>The option would require a full feasibility study to identify improvements and provide robust construction and implementation costs, as well as preliminary environmental and business case assessments.<br><br>Investment towards enhancing rail services and facilities may not alone resolve existing transport pressure experienced within the study area. |
| **Adverse Impacts** | Infrastructure/ facility improvements at stations would require a moderate to high level of capital investment, with service and capacity enhancements requiring a high capital and ongoing operational cost likely to be facilitated by the Welsh Government and Cardiff City Region Metro development proposals.<br><br>Proposals to increase passenger services would retain specific environmental consequences, especially additional noise pollution for residents living close to the railway line.<br><br>Physical enhancements at stations could also retain specific environmental and social consequences (e.g. a new standard ramped footbridge between platforms would establish a large visual landscape impact and associated light pollution).<br><br>Potential development of P&R on green field land may give rise to biodiversity, agricultural and landscape impacts. |
| **Constraints** | Requires a low to moderate level of capital investment for physical improvements, and a high level of capital investment and subsidisation for service and capacity enhancements.<br><br>Land availability to enhance park & ride and integration opportunities.<br><br>Land availability to enhance accessibility options at stations.<br><br>Platform lengths at Dinas Powys and Eastbrook stations, as well as other stations along service routes are anticipated to be of insufficient length to accommodate additional carriages on services. |
| **Dependencies** | Network Rail and Metro delivery programmes.<br><br>Establishment of new rail operator franchise.<br><br>Welsh Government priorities and committed expenditure.<br><br>Other local authority delivery programmes, as set out in the Joint Local Transport Plans. |

| Option C: Enhanced Bus Services and Infrastructure | | | |
|---|---|---|---|
| **Description** | | Enhancement of bus services along existing routes (weekend and evening services), and potential additional routes serving other key settlements to and from Dinas Powys, that are integrated with existing regional and local buses, community transport and rail services.<br><br>Delivery of infrastructure enhancements along strategic bus corridors, providing high quality, consistent waiting facilities in line with the Statutory Quality Bus Partnership Standards (e.g. implementation of real time information as a key enhancement). | |
| **How it tackles the problems** | | Option C has the potential to tackle the following problems: P1 / P2 / P7 / P8 / P9 / P10.<br><br>Through delivering enhancements to both services and infrastructure, Option C has the potential to make public transport services more attractive and less complex with greater integration. This could reduce the dependency on the private car and enable those without a car to more readily access key services and employment. | |
| **Objectives** | **Overall** | Option C is considered to have a positive impact on access to key destinations, services and employment, through delivering enhanced services and raising the profile of bus services through infrastructure enhancements.<br><br>Option C is considered to have a slight beneficial impact on health and well-being and safety and security.<br><br>Option C has the potential to reduce the dependency on the private car and encourage a greater proportion of journeys to be undertaken by public transport. There are resultant environmental benefits from encouraging people to shift modes and to become less dependent on the private car.<br><br>Option C has the potential to improve social inclusion by providing an enhanced transport option for people to access jobs and services and providing a greater public transport coverage. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | ++ |
| | **2** | Facilitate Economic Growth | + |
| | **3** | Improving Health and Well-being | + |
| | **4** | Improved Safety and Security | + |
| | **5** | Benefits and Minimised Impacts on the Environment | + |
| **Key Risks** | | Whilst the option is considered to require a low level of capital investment, the availability of funding would still be key to achieving deliverability. Potential reductions in available funding and resources from national and local government.<br><br>Is there sufficient demand for additional services and routes to justify investment? Option would require feasibility studies to identify realistic proposals.<br><br>Delivering measurable enhancements to bus service provision is reliant upon junction capacity improvements to facilitate an improved and reliable journey time. | |
| **Adverse Impacts** | | Potential local impacts on traffic flow if additional bus services are operating through the study area. | |
| **Constraints** | | Availability of funding and resources.<br><br>Journey times are dependent on the existing road network and its existing limitations, which are known to be congested especially during peak commuting periods. | |

| Option C: Enhanced Bus Services and Infrastructure | |
|---|---|
| | Bus service and infrastructure enhancements would benefit from increased promotion and marketing of services, such as utilising the full potential of social media to maximise patronage and attract new passengers.<br><br>Subject to further analysis and as part of a viable financial business case, the ability to deliver a competitive fare price structure could be essential in achieving increased patronage against completion from other forms of transport and the availability of city centre car parking, for example.<br><br>The potential for buses to adversely affect traffic flows and speeds through the study area. |
| **Dependencies** | Welsh Government priorities and committed expenditure.<br><br>Local authority delivery programmes.<br><br>Development of dedicated bus corridors to facilitate connected bus delivery improvements throughout the region (i.e. development of bus corridors within the Cardiff City Region).<br><br>Investment and 'buy-in' from local bus operators. |

| Option D: Enhanced Walking and Cycling Connectivity | | | |
|---|---|---|---|
| **Description** | | Improve existing and deliver new footpaths and cycle infrastructure within Dinas Powys and to key destinations encompassing enhanced lighting, signage, kerbing and crossing facilities to provide robust connectivity. Enhancements to be focussed (but not necessarily limited to) to:<br>• Cardiff Road through Dinas Powys;<br>• Other key routes including Station Road, Pen-y-Turnpike Road, Millbrook Road and Murch Road;<br>• Connectivity between Dinas Powys and Penarth;<br>• Safe routes to schools; and<br>• Key highway junctions throughout the study area (including for example the Merrie Harrier junction; Cardiff Road/ Station Road junction; and Cardiff Road/ Murch Road junction.<br>Enhancements would be focussed to help ensure road safety for cyclists and pedestrians is subsequently improved upon from existing baseline conditions.<br>Any improvements introduced should provide full accessibility where appropriate encompassing dropped kerbing, tactile paving and ramped access (for example) to help provide connectivity for all.<br>Implement cycle storage and facilities at key interchanges, services and facilities to help establish a fully integrated network. Where appropriate, proposals could consider safety and security measures to help further encourage sustainable access by walking and cycling. | |
| **How it tackles the problems** | | Option D has the potential to tackle the following problems – P05 / P06 / P7 / P08 / P09.<br>The delivery of enhanced walking and cycling infrastructure has the potential to reduce dependency on the private car by encouraging more sustainable means of travel, especially for local trips. For those already using walking and cycling as a mode of travel, the improvements would enhance their journey experience with improved accessibility to key services and employment destinations throughout the study area.<br>Increasing the number of walking and cycling trips away from utilisation of the car could help mitigate identified issues arising locally including highway congestion and accidents, pollution and unreliable journey times. | |
| **Objectives** | **Overall** | Option D is considered to have a positive impact on improving access to local destinations, services and employment by providing greater interconnectivity and robust infrastructure enhancements, as well as reducing the impact of severance within the community.<br>By encouraging trips to be made by walking and cycling and generating mode shift away from the private car, the option is subsequently considered to have a moderate beneficial impact on improving health and well-being, improving safety and security, as well as helping to minimise impacts on the environment.<br>Option D would have the potential to reduce the dependency on the car and encourage an increased proportion of trips to be made by sustainable means of travel (public transport) whilst supporting economic growth and enhanced sustainable connectivity. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | + |
| | **2** | Facilitate Economic Growth | + |

| Option D: Enhanced Walking and Cycling Connectivity | | | |
|---|---|---|---|
| | 3 | Improving Health and Well-being | +++ |
| | 4 | Improved Safety and Security | ++ |
| | 5 | Benefits and Minimised Impacts on the Environment | ++ |
| **Key Risks** | | It is anticipated that improvements (subject to scope clarification) would retain a low to moderate cost impact and be subject to the availability of funding. Potential reductions in available funding and resources from national and local government.<br>High traffic flows within and through Dinas Powys continue to act as a deterrent towards utilising walking and cycling as a key mode or travel.<br>Option would require feasibility studies to identify realistic proposals. | |
| **Adverse Impacts** | | Establishing greater priority towards walking and cycling at key junctions and crossing points could generate adverse vehicle journey times on the local highway in addition to pressures already experienced. Proposals would need to be designed to ensure any potential for delay is minimised whilst delivering maximum accessibility for pedestrians and cyclists. | |
| **Constraints** | | Availability of land to deliver new walking and cycling routes or enhance upon existing infrastructure.<br>Availability of funding. | |
| **Dependencies** | | Welsh Government priorities and committed expenditure.<br>Local authority delivery programmes, as set out in the Joint Local Transport Plans.<br>Development of site specific facilities at key destinations including public transport interchange, offices and schools for example (e.g. cycle parking, security measures, changing facilities) to encourage greater use of walking and cycling as part of a complete journey experience. | |

| Option E: On-Line Highway Improvements | | | |
|---|---|---|---|
| **Description** | | The option encompasses the delivery of road safety improvements and modifications to key local junctions to improve capacity and traffic flow generally. Through the completion of route studies, it is assumed that the option would focus on (but not necessarily be limited to) the following key corridors and junctions:<br>• A4055 Cardiff Road<br>• Pen-y-Turnpike Road (and its junction with Leckwith Road)<br>• Station Road (and its junction with the A4055 Cardiff Road)<br>• A4055 Cardiff Road/ Murch Road/ Millbrook Road junction<br>• Merrie Harrier junction<br>• Barons Court junction<br>Implementation of traffic calming measures where existing speeds are too high and/ or where route sensitivity is high (e.g. near local facilities including schools and access points to public transport).<br>Completion of a parking assessment within the study would help quantify the impact illegal and obstructive parking has within the community, with potential measures introduced to mitigate and restrict parking at sensitive locations. | |
| **How it tackles the problems** | | Option E has the potential to tackle the following problems – P07 / P09 / P10.<br>The delivery of local highway improvements has the potential to improve highway safety with a reduction in road traffic accidents, as well as improve upon existing journey times through the study area.<br>However, by improving the road network it may strengthen the dependence on the private car, through making journeys by cars more attractive and reliable. | |
| **Objectives** | **Overall** | Any measures designed to improve local journey times through the study area are not anticipated to discourage use of the private car for trips, and would most likely encourage increased use of the car. However, contrary to this, the improvement of traffic flow and capacity would help facilitate improved public transport reliability and journey times. Improvements would support development growth of the Vale area. On this basis, a moderate beneficial impact has been assumed towards supporting sustainable connectivity in the Cardiff City Region and neutral for Health and Well-being, with environmental impacts retained as a slight adverse impact.<br>Option E is however anticipated to have the potential to help sustain and facilitate economic growth with improvements towards reliable journey times, as well as a perceived moderate beneficial impact with regard to safety and security as existing highway layouts are upgraded for the benefit of all highway users. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | ++ |
| | **2** | Facilitate Economic Growth | + |
| | **3** | Improving Health and Well-being | 0 |
| | **4** | Improved Safety and Security | ++ |
| | **5** | Benefits and Minimised Impacts on the Environment | - |
| **Key Risks** | | The option would require a moderate to high level of capital investment (depending upon the final scope of works with the main costs being associated with junction | |

| Option E: On-Line Highway Improvements | |
|---|---|
| | capacity improvements) with potential reductions in available funding and resources from national and local government.<br>Environmental considerations.<br>Option would require feasibility studies to identify realistic proposals.<br>Potential need for third party land for junction improvements. |
| **Adverse Impacts** | Improvements to local junction capacity and journey time reliability could help encourage increased use of the private car locally with an adverse impact on the environment and biodiversity.<br>Potential to attract and increase the number of HGV trips through Dinas Powys following the delivery of any improved journey time reliability. |
| **Constraints** | Availability of funding and resources.<br>Availability of land that may be required to improve local junctions and/ or road safety measures.<br>Environmental considerations. |
| **Dependencies** | Improvements may be required at a number of link and junction locations to achieve the full benefit of improved road safety and improved journey time reliability.<br>Ability of annual maintenance budgets to absorb any improvements made to the local highway. |

| Option F: By-Pass | | |
|---|---|---|
| **Description** | | Construction of a new Dinas Powys by-pass. It is assumed for the purposes of this outline appraisal that a new by-pass would follow an approximate corridor from a point circa 750 metres south of Dinas Powys off the A4055, extending northwards to the east of Dinas Powys through primarily green fields, and interconnect back to the A4055 at its junction with the B4267 (Merrie Harrier junction).<br><br>It is assumed that the by-pass would be a single carriageway with the potential to provide public transport infrastructure and suitable crossings to retain east/ west connectivity for walking and cycling.<br><br>It is assumed that implementation of a by-pass would be inclusive of measurable improvements in junction capacity at key junctions interconnecting with and leading to the new route, specifically the Merrie Harrier junction (Llandough), Barons Court junction (Penarth) and the A4055/ A4231 junction (Barry) to ensure the wider benefits of route journey time improvements are achieved. |
| **How it tackles the problems** | | Option F has the potential to tackle the following problems – P06 / P07 / P09 / P10.<br><br>If a by-pass is delivered, the existing adverse impact of road traffic specifically through Dinas Powys could be reduced. Any reduction in traffic could potentially:<br>• Alleviate congestion and capacity issues at sensitive junctions within Dinas Powys with potential for improved local journey times and reliability.<br>• Reduce local issues associated with air quality and noise pollution.<br>• Mitigate road safety concerns with the potential for a reduction in the number of accidents.<br>• Reduce severance within the community with improved crossing opportunity for pedestrians and cyclists.<br>• Allow greater assimilation of new vehicle trips associated with future residential development within Dinas Powys.<br><br>However, improving capacity of the local highway network is likely to strengthen dependence on the private car by making local journeys by private vehicles more attractive and reliable. Some of the improvements noted, including environmental and congestion, have the potential to be displaced onto the new road. Moreover, improved journey times through Dinas Powys may result in traffic continuing to use Cardiff Road, but at increased speed, requiring mitigation measures. |
| **Objectives** | **Overall** | Option F has the potential to support sustainable connectivity in the Cardiff City Region by improving local journey times for bus trips through Dinas Powys allowing for greater reliability and the potential to attract increased patronage. Improved journey times could however make travel by car more attractive and therefore reduce the desirability of public transport locally and regionally. Moreover, connectivity within the village could be improved. A slight beneficial impact is therefore considered appropriate.<br><br>A neutral impact is also considered for improvements to health and well-being with the potential for improvements to air quality and noise pollution on the A4055 through Dinas Powys being displaced onto the new bypass impacting on local residents).<br><br>Assuming that delivery of a new by-pass would retain measurable improvements in journey time (including associated junctions north and south of the route), a minor beneficial impact could be achieved with regard to facilitating economic growth as accessibility is improved within and through the area. The level of benefit would be dependent on journey time savings compared to the existing route and is not assessed as higher given that the main constraint is the Merrie Harrier and Barons Court junctions. |

| | | | |
|---|---|---|---|
| | | A moderate beneficial impact is assigned to safety and security as possible reductions in traffic flow through Dinas Powys could be achieved together with implementation of a new highway/ by-pass designed to current standards, and appropriate to accommodate forecast traffic flows.<br><br>It is however considered that the option has the potential for a moderate adverse impact with regard to the environment, both through the construction of a new by-pass (upon an existing green field site), the potential increase in road traffic as more people may choose to drive due to time savings and greater journey reliability, as well as the displacement of existing air quality and noise pollution from the A4055. This would be large adverse but needs to be considered against the likely benefits for the village centre along Cardiff Road. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | ++ |
| | **2** | Facilitate Economic Growth | + |
| | **3** | Improving Health and Well-being | 0 |
| | **4** | Improved Safety and Security | ++ |
| | **5** | Benefits and Minimised Impacts on the Environment | – |
| **Key Risks** | | Requires a high level of capital investment.<br><br>Delivery would be in the long term, beyond the Local Development Plan period due to the policy context, significant funding constraints in short to medium term programmes and development work required to take the proposal forward.<br><br>There are already a number of large scale transport schemes currently in the Welsh Government's infrastructure delivery programmes (such as the M4 motorway and five-mile lane, for example) which require significant capital funding and resources. It is anticipated that any proposal would need to demonstrate regional/ national value against these other large scale transport schemes.<br><br>Potential reductions in available funding and resources.<br><br>Land acquisitions (time and cost).<br><br>Environmental considerations, including the potential for protected species to be located along the route.<br><br>Greater centralisation of services (health and education) adding increasing pressure on the existing transport infrastructure and services.<br><br>Reduced traffic flows within Dinas Powys could lead to increased traffic speeds.<br><br>Improved road conditions within Dinas Powys has the potential to retain and possible attract increased traffic growth, alleviating the benefits of traffic reduction sought through the implementation of a by-pass.<br><br>Route uncertainties make it difficult to fully understand the engineering constraints and potential costs, and associated impacts. Potential inability for the by-pass to establish effective improvements to junctions and journey time reliability north and south of the new route. Option would require a detailed route study to provide robust construction costs, land acquisition costs, as well as preliminary environmental and business case assessments (journey time savings etc.). | |
| **Adverse Impacts** | | Potential adverse impact on the environment and biodiversity.<br><br>Potential to encourage more journeys to be undertaken by car or HGVs.<br><br>Impact on residents situated adjacent to the proposed route.<br><br>Impact on local communities during construction.<br><br>Delay to road users (car, HGVs and public and community transport) during construction. | |

| | |
|---|---|
| | Would require a high level of capital investment, which may have implications on the delivery of other capital schemes in the region for a number of years, including the delivery of more sustainably driven measures. |
| **Constraints** | Availability of funding and resources.<br>Environmental considerations including the potential for protected species along the proposed route.<br>Land ownership constraints.<br>Route uncertainties make it difficult to fully understand the engineering constraints and potential costs. |
| **Dependencies** | Impacts on available revenue/ maintenance budgets.<br>Ability to acquire all land required to facilitate the proposal. |

| Option G: Multi-Modal Option | | |
|---|---|---|
| **Description** | | The multi-modal option considers the delivery of short (up to five years), medium (up to ten years) and long (more than 10 years) term improvements within the study area across the range of modes. This would be a package of improvements for the short to long term, combining elements of the modal options B-E in order to present a realistic and fundable option.<br><br>It is envisaged that this option would deliver enhancements to the existing public transport network including enhancements to bus and rail services and infrastructure. In the short term, this could encompass relatively 'quick win' deliverables (subject to funding) including robust enhancements to passenger facilities which have the potential to have a measurable impact on transport provision within the study area, alongside a programme of active travel improvements.<br><br>Implementation of robust walking and cycling measures throughout Dinas Powys and connections towards Barry and Penarth (as discussed in the walking and cycling option) could help improve access in the short to medium term to and from public transport interchange, as well as deliver wider connectivity improvements for the community.<br><br>In the medium term, bus and rail service enhancements would be delivered, following route studies could be completed to assess the potential in more detail. Local highway improvements could also be taken forward within the time-frame with the potential to deliver enhanced junctions and on-line route enhancements along sensitive highway links throughout the study area.<br><br>**The by-pass Option F is not included in the package as this would combine to create a high cost option and may potentially detract from the rail investment elements of the package by improving car journey times.** |
| **How it tackles the problems** | | Option G has the potential to tackle the following problems: P1 / P2 / P3 / P4 / P5 / P6 / P7 / P8 / P9 / P10.<br><br>Through delivering enhancements to both services and infrastructure, Option G has the potential to make public transport services more attractive and less complex with greater integration, thus reducing the dependency on the private car and enabling those without a car to more readily access key services and employment.<br><br>Greater regional assimilation to the Cardiff City Region could help improve access to employment and services, and enable a greater number of people access key centres containing key services.<br><br>The delivery of on-line improvements has the potential improve both journey times and journey time reliability, as well as road safety through the removal of pinch points and improving the standard of the carriageway. |
| **Objectives** | **Overall** | The combination of improvements to both the road network and delivery of an enhanced public transport services and infrastructure would promote a high level of accessibility to key destinations, employment and services. The on-line road improvements could provide improve journey times for all road users.<br><br>The delivery of on-line road improvements would serve to improve road safety and journey time reliability.<br><br>The delivery of walking and cycling improvements would have a moderate beneficial impact on health and well-being.<br><br>It is considered that this option would have a neutral impact on the environment, as the construction of any road improvements may have an adverse impact, while improving journey times and journey time reliability may encourage an increase in road traffic and hence resulting in an adverse impact on the environment. However, improving journey time reliability and providing enhanced public transport provision |

| | | | |
|---|---|---|---|
| | | has the potential to have a beneficial impact on the environment by encouraging some to use more sustainable modes of travel. | |
| | **1** | Support Sustainable Connectivity in Cardiff City Region | +++ |
| | **2** | Facilitate Economic Growth | +++ |
| | **3** | Improving Health and Well-being | ++ |
| | **4** | Improved Safety and Security | ++ |
| | **5** | Benefits and Minimised Impacts on the Environment | 0 |
| **Key Risks** | | The package of measures would involve a moderate to high level of cost, depending on the level of public transport improvements included.<br>Availability of funding.<br>Potential reductions in available funding and resources.<br>Land acquisitions (time and cost).<br>Environmental considerations (time and cost).<br>The highway elements would require traffic modelling and design studies to provide robust construction costs, land acquisition costs, as well as preliminary environmental and business case assessments (journey time savings etc.).<br>Is there sufficient demand for additional services and routes to justify the investment when availability of funding is diminishing? This would require further analysis.<br>Potential reductions in available funding and resources to support public transport, both initial investment and ongoing support. | |
| **Adverse Impacts** | | On-line road improvements could potentially result in adverse impact on the environment and biodiversity.<br>Potential to encourage more journeys to be undertaken by car or HGVs.<br>Impact on local communities during construction of improvements to highways, walking and cycling and rail interchange enhancements.<br>Delay to road users (car, HGVs and public and community transport) during construction.<br>Potential local impacts on traffic flow and passenger waiting facilities if additional bus services are retained within the study area. | |
| **Constraints** | | Availability of funding and resources.<br>Environmental considerations.<br>Land ownership.<br>Requires integration with local and community transport services, which are reliant on other funding sources and such integration is therefore not guaranteed.<br>Journey times dependent on the existing road network and its existing limitations. Improvements to journey time and journey quality are dependent on significant highway improvements and hence investment.<br>Requires local bus services and community transport to be of a sufficient frequency and coverage to enable a large number of people to be able to readily access the regional services. | |
| **Dependencies** | | Impacts on available revenue/ maintenance budgets. | |

| | |
|---|---|
| | All of the individual identified schemes along the corridor would need to be delivered to enable the full scheme benefits to be achieved.<br>Welsh Government priorities and committed expenditure. |

# 3 Transport Case

## 3.1 Overview

The aim of the Transport Case is to *'present the narrative for each option in more detail as to how each proposed solution will meet the need identified In the Strategic Case and the objectives set'.*

The transport case presents the impacts of each option under the headings of social, environmental and economic impacts and an evidence based assessment of the following:

- What the impacts will be;
- The scale of those impacts;
- Where will they occur; and
- Who/ what will experience them.

## 3.2 Assessment of Impacts

An assessment of effects for each of the options has been undertaken. A largely qualitative assessment of the impacts against each of the criteria has been undertaken as there is only preliminary data available at this stage in the WelTAG process. The WelTAG seven point assessment scale, as set out in Table 1, has been used to present the scale of the impact and has been determined using professional judgement and information presented in the Impacts Assessment Report.

| **Option A: Do-Minimum** | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | A slight adverse impact on physical activity, due to low levels of funding currently being invested in the infrastructure. | - |
| Journey Quality | The highway network forms the backbone of the transport network however the volume of existing traffic using the highway through the study area (especially the A4055 Cardiff Road) has established congestion, capacity issues at junctions and subsequently unreliable journey times.<br>The Capita Symonds Highway Impact Assessment LDP Background Paper (2013) has subsequently identified a number of key junctions within the study area that are forecast to operate over capacity in the 2026 future year assessed, namely:<br>• Leckwith Road/ Pen-y-Turnpike Road;<br>• Merrie Harrier; Barons Court (already at capacity in 2012);<br>• Barons Court junction (already at capacity in 2012); and<br>• Cardiff Road/ Murch Road/ Millbrook Road (already over capacity in 2012)<br>A step change in the level of investment in the infrastructure is required to deliver journey quality improvements. | - |
| Accidents | A number of accidents have been identified within the study area, particularly through the A4055 Cardiff Road link through Dinas Powys.<br>A step change in the level of investment in the infrastructure is required to deliver road safety improvements. | - |

| Option A: Do-Minimum | | |
|---|---|---|
| Security | A slight adverse impact on security due to low levels of funding currently being invested in the infrastructure and associated security measures. | - |
| Access to Employment | Dinas Powys is situated near to key employment settlements most notably Cardiff and Barry, however existing public transport services and infrastructure provision would require an increased level of funding to deliver improved accessibility to employment.<br>The car (or van) is the dominant mode of travel to work across Dinas Powys, as with the Vale of Glamorgan and South East Wales as a whole. 79% of those from Dinas Powys drive to work (including passengers) compared with 76% of South East Wales as a whole. | - |
| Access to Services | The WIMD 2014 for access to services deprivation identifies that large parts of the study area are ranked in the least deprived lower super output areas. Some areas retain a moderate ranking in terms of access to services.<br>A large proportion of retired people live within the study area, who tend to be more reliant on public and community transport to participate fully in the community and get access to essential social and healthcare facilities.<br>Increasing pressures on available budgets are subsequently putting increased pressure on the provision of bus services. An increased level of funding is however required to deliver improved access to services, particularly for younger and retired people who are more reliant on public transport. | 0 |
| Affordability | Problems many people in the region encounter in accessing work, education and healthcare because of lack of available, affordable transport (Cardiff Capital Region Metro Study; 2013). | 0 |
| Severance | The A4055 Cardiff Road passes through the centre of Dinas Powys. High traffic volumes including HGVs passing through the settlement have an impact on communities with a limited number of viable crossing points available. | - |
| Option and Non-Use Values | There is high use of the private car within and through Dinas Powys, especially for access to employment. Services and employment are relatively centralised within Dinas Powys and nearby urban centres however the available alternate mode options are not always considered viable to accommodate many journey needs (including the available frequency of services and capacity).<br>An increased level of funding is required to deliver realistic and attractive alternatives to the private car. | - |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to noise pollution. No quantitative data on noise levels is available at this stage. | - |
| Air Quality | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations | - |

| Option A: Do-Minimum | | |
|---|---|---|
| | to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys. | |
| Greenhouse Gasses | See note for Air Quality.<br>Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to greenhouse gas emissions. | - |
| Landscape | No impact identified. No quantitative data is available at this stage. | 0 |
| Townscape | The strategic road network passes through the centre of Dinas Powys. The high levels of traffic flow is subsequently considered to have an adverse impact on the community. | - |
| Historic Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | No impact identified. No quantitative data is available at this stage. | 0 |
| Water Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and high levels of congestion are experienced throughout the study area, leading to delay and unreliable journey times.<br>A step change in the level of investment in the infrastructure is required to deliver journey time improvements. | - |
| Journey Time Reliability Changes | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and high levels of congestion are experienced throughout the study area, leading to delay and unreliable journey times.<br>A step change in the level of investment in the infrastructure is required to deliver journey time improvements. | - |
| Transport Costs | The rising cost of transport including high fuel prices is making owning and running a car an increasing obstacle, whilst the availability of public transport and other modes of transport is not always a viable alternative.<br>A step change in the level of investment in services and infrastructure is required to deliver viable alternatives the car at an affordable cost. | - |
| Accidents | A number of accidents have been identified within the study area, particularly through the A4055 Cardiff Road through Dinas Powys.<br>A step change in the level of investment in the infrastructure is required to deliver road safety improvements. | - |
| Changes in Productivity | No impact identified. | 0 |
| Local Economy | No impact identified. | 0 |
| Land | No impact identified. | 0 |

| Option A: Do-Minimum | | |
|---|---|---|
| Capital Costs | The delivery of the local and regional transport programmes requires continued financial support from the public sector. | 0 |
| Revenue Costs | Bus services require continued subsidy from the public sector. Rising cost of transport is resulting in many households struggling to afford to own and run a car, whilst public transport alternatives are often not a viable alternative. | 0 |

| Option B: Enhanced Rail Services and Interchange | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option B would have a slight beneficial impact on physical activity. | + |
| Journey Quality | The highway network forms the backbone of the transport network and although Dinas Powys is served by two railway stations with up to four services per hour, surveys have illustrated that standing is at levels above train capacity during the AM and PM peak periods (Vale of Glamorgan Local Development Plan 2011-2026: Sustainable Transport Assessment).<br>The introduction of enhanced services and infrastructure has the potential to improve journey quality for existing passengers as well as increase the likelihood of achieving modal shift towards rail travel. | ++ |
| Accidents | It is expected that Option B would have a slight beneficial impact on accidents through the mode shift to rail. | + |
| Security | The enhancement of station infrastructure and facilities has the potential to improve the perception of passenger personal security, including the implementation of improved lighting and CCTV. | ++ |
| Access to Employment | Existing rail services already interconnect with key employment centres within the Cardiff City Region however Option B could improve access to employment further as the number of services would be increased and improved facilities could also establish increased travel by rail. | +++ |
| Access to Services | Existing rail services already interconnect to key urban centres within the Cardiff City Region. However Option B could improve access to services further as the number of rail services would be increased and improved facilities could also establish increased travel by rail. | +++ |
| Affordability | Rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of an enhanced public transport option has the potential to make travel more affordable for some sections of society, most notable the young and elderly. However, it should be noted that public transport services can be unaffordable for some groups within society. | + |
| Severance | Enhanced rail services and interchange has the potential to shift journeys by car to rail and therefore help reduce the high traffic flows occurring with the study area. Reduced flows could lead to reduced severance within the community. | + |
| Option and Non-Use Values | Option B provides an enhanced alternative to journeys currently made by car and increases the resilience of the transport network through the provision of a more robust public transport network. | + |
| **Environmental** | | |
| Noise | No technical information is available at this stage, hence no quantitative data on potential noise impacts is available.<br>Option B has the potential to result in a reduction in noise pollution by potentially encouraging shift for some journeys onto rail from the private | 0 |

| Option B: Enhanced Rail Services and Interchange | | |
|---|---|---|
| | car. However, Option B could result in an increase in noise for a number of communities, properties and commercial premises along the route, hence a neutral impact is forecast. | |
| Air Quality | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys.<br>Option B has the potential to result in an improvement in air quality by encouraging shift for some journeys onto rail from the private car. | ++ |
| Greenhouse Gasses | See note for Air Quality.<br>Option B has the potential to result in a reduction in greenhouse gas emissions by encouraging shift for some journeys onto rail from the private car. | ++ |
| Landscape | The impact on landscape would be subject to the extent of infrastructure enhancements/ implementation as there would be no perceived change the existing line of route. Small scale enhancements would be unlikely to establish an adverse impact although the implementation of a new footbridge or a park and ride site could have an adverse visual impact. Enhancements to lighting within the confines of the station environment could also establish an adverse impact. | - |
| Townscape | A neutral impact is forecast as the strategic road network would continue to pass through the centre of Dinas Powys.<br>No quantitative data on the potential mode shift and impact of traffic volumes is available at this stage. | 0 |
| Historic Environment | No technical information available – no impacts have been identified at this stage. | 0 |
| Bio-Diversity | It is not anticipated that any service or infrastructure enhancements would have an adverse impact on bio-diversity as development would be retained within the confines of the station boundaries with no changes to the existing line of route. Provision of a park and ride site on greenfield land could however have an impact. There is no further technical information available on the potential impacts and mitigation options at this stage. | 0 |
| Water Environment | No technical information available – no impacts have been identified at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | The implementation of enhanced rail services and interchange facilities could improve journey times where passengers are delayed by the inability to board crowded trains. Investment in the rail network may bring about improved journey times. | + |

| Option B: Enhanced Rail Services and Interchange | | |
|---|---|---|
| Journey Time Reliability Changes | The implementation of enhanced rail services and interchange facilities could improve journey time reliability where passengers are delayed by the inability to board crowded trains. Investment in the rail network may bring about improved journey times. | + |
| Transport Costs | Rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of an enhanced public transport option has the potential to make travel more affordable for some sections of society, most notable the young and elderly. However, it should be noted that public transport services are often unaffordable for some groups within society. | + |
| Accidents | It is expected that Option B would have a slight beneficial impact on accidents as a mode shift away from the private car is encouraged. | + |
| Changes in Productivity | The delivery of Option B has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | ++ |
| Local Economy | The delivery of Option B has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | ++ |
| Land | For the enhanced park and ride interchange at the stations, third party land may need to be considered, but would evidently be restricted by availability and cost. Other infrastructure and service enhancements would be anticipated to be retained within the confines of the existing station boundaries. | - |
| Capital Costs | No firm capital costs are currently available, however it is anticipated that infrastructure improvements would retain a low (up to £5m) to moderate (£5m - £10m) capital investment, however further work is required to provide more accurate cost estimates. Service enhancement costs would be subject to Network Rail and Metro delivery programmes/ packages. | -- |
| Revenue Costs | It is expected that enhanced rail services would require subsidy from the public sector.<br>Consideration of the franchise agreements between the Welsh Government and the train operating company. | -- |

| Option C: Enhanced Bus Services and Infrastructure | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option C would have a slight beneficial impact on physical activity. | + |
| Journey Quality | The current road network forms the main transport infrastructure in the study area which is subject to high levels of traffic and subsequent congestion and poor journey time reliability. The introduction of additional services and infrastructure enhancements (for example waiting facilities) would improve the journey quality for passengers although the experience would be moderated by continued congestion on the highway.<br>A step change in the level of investment in the highway infrastructure is required to deliver journey quality improvements. | + |
| Accidents | It is expected that Option C would have a slight beneficial impact on accidents. | + |
| Security | The delivery of enhanced bus waiting facilities, if built with appropriate lighting, real time information, shelters and potentially CCTV could improve the perception of passenger personal security. Together with enhanced security features on new buses, such as increased use of glass and CCTV. | ++ |
| Access to Employment | Existing bus services already interconnect to key employment centres within the Cardiff City Region. However Option C could improve access to employment further as the number of services would be increased and improved facilities could also establish increased travel by bus (mode shift). | ++ |
| Access to Services | Existing bus services already interconnect to key urban centres within the Cardiff City Region. However Option C could improve access to services further as the number of bus services would be increased and improved facilities could also establish increased travel by bus (mode shift). | ++ |
| Affordability | Rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of an enhanced public transport option has the potential to make travel more affordable for some sections of society, most notable the young and elderly. However it should be noted that public transport services are often unaffordable for some groups within society. | + |
| Severance | Enhanced bus services and interchange has the potential to shift journeys by car to bus and therefore help reduce the high traffic flows occurring within the study area. Reduced flows could lead to reduced severance within the community. | + |
| Option and Non-Use Values | Option C provides a more viable alternative to journeys currently made by car and increases the resilience of the transport network through the provision of a more robust public transport network. | + |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to noise pollution. The | 0 |

| Option C: Enhanced Bus Services and Infrastructure | | |
|---|---|---|
| | improvements in public transport has the potential to encourage a mode shift away from the private car to the bus thus has the potential to improve noise pollution.<br>However, unless a significant mode shift to the car is achieved, any improvement in noise pollution could be mitigated by an increased number of bus services and potentially stops throughout the study area. A neutral impact is therefore considered reasonable.<br>No technical information is available at this stage, hence no quantitative data on potential noise impacts is available. | |
| Air Quality | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys.<br>Option C has the potential to result in an improvement in air quality by encouraging shift for some journeys to bus from the private car. | + |
| Greenhouse Gasses | See note for Air Quality.<br>Option C has the potential to result in a reduction in greenhouse gas emissions by encouraging shift for some journeys to bus from the private car. | + |
| Landscape | No impact identified. No quantitative data is available at this stage. | 0 |
| Townscape | There is not anticipated to be a significant increase in the number of bus stops resulting from this option, with the enhancement of bus stops anticipated to establish a positive impact on townscape. This improvement in bus stops has the potential to be mitigated by any increase in bus services with an increase in buses stopping and waiting within the study area. | 0 |
| Historic Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | No impact identified. No quantitative data is available at this stage. | 0 |
| Water Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | The implementation of Option C alone would not establish an improvement in journey times owing to existing highway constraints throughout the study area.<br>To deliver improved journey time savings a step change in the level of investment in the highway infrastructure is required. | - |
| Journey Time Reliability Changes | The implementation of Option C alone would not establish an improvement in journey time reliability owing to existing highway constraints throughout the study area. | - |

| Option C: Enhanced Bus Services and Infrastructure | | |
|---|---|---|
| | To deliver improved journey time savings a step change in the level of investment in the highway infrastructure is required. | |
| Transport Costs | The rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of an enhanced public transport option has the potential to make travel more affordable for some sections of society, most notable the young and elderly. However it should be noted that public transport services are often unaffordable for some groups within society. | + |
| Accidents | It is expected that Option C would have a slight beneficial impact on accidents as a mode shift away from the private car is encouraged. | + |
| Changes in Productivity | The delivery of Option C has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | + |
| Local Economy | The delivery of Option C has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | + |
| Land | No impact identified. No quantitative data is available at this stage. | 0 |
| Capital Costs | Capital expenditure would be required to deliver the enhancements to bus waiting facilities, however these costs are considered to be low and would be one off capital payments, such schemes are usually delivered by local authorities. | 0 |
| Revenue Costs | It is expected that bus services would require subsidy from the public sector. | - |

| Option D: Enhanced Walking and Cycling Connectivity | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option D would have a large beneficial impact on physical activity. | +++ |
| Journey Quality | The implementation of enhanced walking and cycling infrastructure throughout the study area is anticipated to establish an improvement in journey quality with an improvement to safety especially beneficial.<br>A significant improvement in quality would however be reliant upon local traffic flows reducing to enhance the experience for walking and cycling.<br>A step change in the level of investment in the highway infrastructure is required to deliver journey quality improvements. | ++ |
| Accidents | It is expected that Option D would have a moderate beneficial impact on accidents with the potential to positively improve highway conditions to support safer accessibility for walking and cycling. Improvements could include for example enhanced lighting, dropped kerbing, tactile paving and ramped access for example. | ++ |
| Security | Providing for enhanced walking and cycling measures establishes the potential to improve upon security, especially at key interchanges including the implementation of secure storage/ lockers and CCTV. Improvements to lighting along key pedestrian and cycle links could also increase the perception of enhanced security for users and increase mode shift away from the private car. | ++ |
| Access to Employment | The delivery of Option D has the potential to reduce dependency on the private car by encouraging more sustainable means of travel, thereby establishing increased access to employment especially for those unable to afford access to a car. Enhancing walking and cycling connectivity to local public transport could further help support access to employment within the Cardiff City Region. | + |
| Access to Services | The delivery of Option D has the potential to reduce dependency on the private car by encouraging more sustainable means of travel, thereby establishing increased access to services especially for those unable to afford access to a car. Enhancing walking and cycling connectivity to local public transport could further help support access to services within the Cardiff City Region. | + |
| Affordability | Rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of enhanced walking and cycling has the potential to encourage a low cost means of transport including improved interconnectivity with public transport, services and employment reducing further reliance upon the private car. | ++ |
| Severance | Enhanced walking and cycling opportunities has the potential to shift journeys from car (especially for local trips) and therefore help reduce the high traffic flows occurring within the study area. Reduced flows could lead to reduced severance within the community in combination with the implementation of new and enhanced crossing opportunities, especially in relation to the A4055 Cardiff Road where traffic flows are extensively high. | + |

| Option D: Enhanced Walking and Cycling Connectivity | | |
|---|---|---|
| Option and Non-Use Values | Option D provides a more viable alternative to journeys currently made by car and increases the resilience of the transport network through the provision of more robust walking and cycling opportunities and interconnectivity to local public transport, services and employment. | + |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to noise pollution. The improvements in walking and cycling has the potential to encourage a mode shift away from the private car and thus has the potential to improve noise pollution.<br>No technical information is available at this stage, hence no quantitative data on potential noise impacts is available. | ++ |
| Air Quality | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys.<br>Option D has the potential to result in an improvement in air quality by encouraging shift for some journeys to walking and cycling from the private car. | ++ |
| Greenhouse Gasses | See note for Air Quality.<br>Option D has the potential to result in a reduction in greenhouse gas emissions by encouraging shift for some journeys to walking and cycling from the private car. | ++ |
| Landscape | No impact identified. No quantitative data is available at this stage. | 0 |
| Townscape | The implementation of enhanced walking and cycling facilities is anticipated to have a slight beneficial impact on townscape, as improvements to the local highway to facilitate enhanced measures could improve upon existing conditions. However, measures to enhance security including improved lighting for example, could establish an adverse impact in some areas of the study area. | 0 |
| Historic Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | At this stage of the analysis it is anticipated that land would be required to facilitate walking and cycling improvements resulting in a slight adverse impact. It should be noted that no quantitative data is available at this stage. | - |
| Water Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | The implementation of Option D could establish improved journey times for walking and cycling. Facilities could be introduced to reduce | + |

| Option D: Enhanced Walking and Cycling Connectivity | | |
|---|---|---|
| | severance within the community including the implementation of new and improved crossing facilities along highways with high traffic volumes.<br><br>Enhanced cycling routes, segregated where possible, would also help establish improvements in journey times and potentially be less connected to the issues of congestion and delay generally experienced on the highway network within Dinas Powys. | |
| Journey Time Reliability Changes | The implementation of Option D could establish improved journey time reliability for walking and cycling. Facilities could be introduced to reduce severance within the community including the implementation of new and improved crossing facilities along highways with high traffic volumes.<br><br>Enhanced cycling routes, segregated where possible, would also help establish improvements in journey times and potentially be less connected to the issues of congestion and delay generally experienced on the highway network within Dinas Powys, | + |
| Transport Costs | The rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of an enhanced walking and cycling network within the study area has the potential to make travel more affordable for some sections of society. This would be especially pertinent for local trips within Dinas Powys, however enhanced interconnectivity to public transport could also establish lower cost travel opportunities to the wider region by more sustainable modes of transport. | ++ |
| Accidents | It is expected that Option D would have a slight beneficial impact on accidents as a mode shift away from the private car is encouraged, and improved highway infrastructure (crossing points, dropped kerbs, lighting, tactile paving, traffic calming) could further help reduce the likelihood of accidents occurring. Reducing the number of accidents within the study area would help reduce overarching highway delay and the cost impact that could represent to the local and wider economy. | ++ |
| Changes in Productivity | The delivery of Option D has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | + |
| Local Economy | The delivery of Option D has the potential to improve sustainable access to employment and enable some groups of society to take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | + |
| Land | Land may be required to deliver new walking and cycling routes however no quantitative data is available at this stage. | 0 |
| Capital Costs | Capital expenditure would be required to deliver the enhancements to walking and cycling. These costs are anticipated to be low to moderate and would be one off capital payments (such schemes are usually delivered by local authorities with transport grant support). | ++ |
| Revenue Costs | Ongoing maintenance costs would be associated with the introduction of new and approved walking and cycling opportunities however these are anticipated to be significantly lower in comparison to other options presented. | ++ |

| Option E: On-line Highway Improvements | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option E would have a slight beneficial impact on physical activity. | + |
| Journey Quality | Option E through the delivery of on-line improvements has the potential to improve journey quality through improvements to existing junction capacity, congestion and subsequent delay, together with improving road safety. The improvements in journey quality have the potential to benefit light traffic, HGVs and public transport. There is also the potential, if active travel measures are delivered, that there may be additional benefits to walkers and cyclists through enhanced infrastructure provision. | + |
| Accidents | Option E through the delivery of on-line improvements has the potential to improve road safety through improving the standard of the carriageway. | ++ |
| Security | No impact identified. | 0 |
| Access to Employment | Option E has the potential to improve access to employment by improving journey times and journey reliability for both car users and public transport operations. Improved journey times and reliability for public transport could also help encourage mode shift away from the private car. | + |
| Access to Services | Option E has the potential to improve access to services by improving journey times and journey reliability for both car users and public transport operations. Improved journey times and reliability for public transport could also help encourage mode shift away from the private car. | + |
| Affordability | The potential to divert trips from the car to public transport as a result of improved journey time and reliability is mitigated by the potential for the option to retain the car as the dominant mode of travel in the region. A slight adverse impact is therefore recognised given the relatively high costs associated with purchasing and running a private car. | - |
| Severance | The strategic road network passes through the centre of Dinas Powys and under this option the line of route would be retained. Whilst trips may be diverted from the car to public transport as highway journey times and reliability improve, the strategic network under this option is anticipated to retain high traffic volumes and therefore a continued adverse impact on community severance. | - |
| Option and Non-Use Values | Option E would not provide alternatives for current journeys but it would increase the resilience of the road network by removing sections that are substandard. | 0 |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the study area (2011 Census) and thus contributes to noise pollution. It is possible that by improving journey times and the reliability of the road network that more people to choose to travel by private car. However as no quantitative data is available at this stage it is assumed that any potential increase would be low as the scheme would largely deliver on- | - |

| Option E: On-line Highway Improvements | | |
|---|---|---|
| | line improvements and hence no change in noise pollution compared to the do-minimum is forecast. | |
| Air Quality | Road transport is the dominant mode for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys.<br>Option E has the potential to result in a neutral impact upon air quality as any car trips diverted to public transport as a result of improved journey times and reliability plus improved emissions resulting from more consistent traffic flows could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced. | 0 |
| Greenhouse Gases | Option E has the potential to result in a neutral impact upon air quality as any car trips diverted to public transport as a result of improved journey times and reliability plus improved emissions resulting from more consistent traffic flows could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced. | 0 |
| Landscape | Option E is likely to have a neutral impact on landscape as improvements are anticipated to be retained within the existing highway. | 0 |
| Townscape | Option E has the potential to result in a slight adverse impact upon townscape as any car trips diverted to public transport as a result of improved journey times and reliability could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced. | - |
| Historic Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | At this stage of the analysis it is anticipated that land would be required to facilitate on-line highway improvements resulting in a slight adverse impact. It should be noted that no quantitative data is available at this stage. | - |
| Water Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | Option E through the delivery of on-line improvements has the potential to improve journey times by road traffic (car, HGVs and public transport). | ++ |
| Journey Time Reliability Changes | Option E through the delivery of on-line improvements has the potential to improve journey time reliability by road traffic (car, HGVs and public transport). | ++ |
| Transport Costs | Any car trips diverted to public transport as a result of improved highway journey times and reliability could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced. It is therefore anticipated that delivery of largely on-line highway improvements would not reduce the transport costs compared to the do-minimum option. | - |

| Option E: On-line Highway Improvements | | |
|---|---|---|
| Accidents | Option E through the delivery of on-line improvements has the potential to improve road safety through improving the standard of the carriageway. | ++ |
| Changes in Productivity | Option E has the potential to improve access to employment for journeys made by car and existing public transport services, it would not however enable those unable to travel by car or existing public transport services to take a full and active role within society. | + |
| Local Economy | Option E has the potential to improve access to employment for journeys made by car and existing public transport services, it would not however enable those not able to travel by car or existing public transport services to take a full and active role within society. | + |
| Land | At this stage of the analysis it is expected that land would need to be purchased in order to deliver the highway improvements. The exact extent and potential costs are unknown at this stage and would require further exploration. | - |
| Capital Costs | The delivery of the highway improvement options would require a moderate capital investment from the public sector. | -- |
| Revenue Costs | The highway would continue to require maintenance support from the public sector, as the improvements would largely be on-line improvements it is not envisaged that the scheme would result in significant additional pressure on the increasingly stretched maintenance budgets. | - |

| Option F: By-Pass | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option F would have a slight beneficial impact on physical activity. | + |
| Journey Quality | It is assumed that the implementation of Option F would establish measurable improvements in junction capacity at the key junctions interconnecting with and leading to the new route. On this basis a new by-pass could improve journey quality for light traffic, HGVs and public transport including via the existing highway network through Dinas Powys. There is also the potential, if active travel measures are delivered, that there may be additional benefits to walkers and cyclists through enhanced infrastructure provision. | ++ |
| Accidents | Option F has the potential to reduce traffic flow through Dinas Powys and subsequently improve road safety (assuming high traffic flows are currently contributing towards adverse road safety), although reduced traffic flow through the urbanised area could lead to increased road traffic speed therefore mitigating any significant potential improvements in the absence of any local highway improvements and/ or traffic calming measures.<br>Delivery of a by-pass to current highway standards affords the possibility of minimising accidents along this new stretch of road with the opportunity to integrate sustainable travel measures as part of the overarching design. | ++ |
| Security | No impact identified. | 0 |
| Access to Employment | Option F has the potential to improve access to employment by improving journey times and journey reliability for both car users and public transport operations. Improved journey times and reliability for public transport could also help encourage mode shift away from the private car. | + |
| Access to Services | Option F has the potential to improve access to services by improving journey times and journey reliability for both car users and public transport operations. Improved journey times and reliability for public transport could also help encourage mode shift away from the private car. | + |
| Affordability | The potential to divert trips from the car to public transport as a result of improved journey time and reliability is mitigated by the potential for the option to retain the car as the dominant mode of travel in the region. A slight adverse impact is therefore recognised given the relatively high costs associated with purchasing and running a private car. | - |
| Severance | The delivery of a by-pass would be anticipated to reduce the high traffic flows experienced through Dinas Powys and therefore reduce the impact of severance. This benefit would be somewhat mitigated by improved highway conditions within Dinas Powys arguably encouraging or at least retaining the car as the preferred means of travel, however a moderate beneficial impact is considered viable. | ++ |
| Option and Non-Use Values | Option F has the potential to encourage trips made by bus as journey times and reliability improve, as well as potentially increasing the resilience of the road network by alleviating high traffic flows along key | + |

| Option F: By-Pass | | |
|---|---|---|
| | sections of the existing highway, most notably the A4055 Cardiff Road through Dinas Powys. | |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the study area (2011 Census) and thus contributes to noise pollution. It is possible that by improving journey times and the reliability of the road network that more people to choose to travel by private car. Plus delivery of a by-pass is anticipated to reduce traffic flows through Dinas Powys and subsequently noise related pollution.<br><br>However, a new by-pass through an existing green field location would introduce new and additional noise pollution to the area, with improved vehicle access likely to retain high traffic flows and the potential to also attract new vehicle trips as accessibility is improved. This is not yet quantifiable in the absence of quantitative data, but a moderate adverse impact is considered reasonable to assume at this stage of the analysis, whilst also noting construction noise that would be associated with development of the by-pass.<br><br>Mitigation measures would be available to alleviate any associated noise pollution but this would need to be considered against the potential to establish adverse landscape impacts (e.g. implementation of noise bunds) subject to robust measures being established. | - |
| Air Quality | Road transport is the dominant mode for journeys in the region (2011 Census) and thus contributes to air pollution. There are no Air Quality Management Areas (AQMA) within the study area. According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the Vale of Glamorgan complies with regulations to protect human health. Data for 2012 however has highlighted that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These locations include Cogan Roundabout and Cardiff Road, Dinas Powys.<br><br>Implementation of a new by-pass has the potential to improve air quality through Dinas Powys with an anticipated reduction in traffic flows anticipated, plus the potential for existing car trips to divert to public transport as a result of improved journey times and reliability.<br><br>However, a new by-pass would establish the potential for adverse air quality along this new route with the possibility of encouraging traffic growth in the area as the same benefits of improved journey times and reliability are experienced by car users. This is not yet quantifiable in the absence of quantitative data, but a slight adverse impact is considered reasonable to assume at this stage of the analysis.<br><br>The impact of construction on managing air quality/ dust would also need to be considered. | - |
| Greenhouse Gasses | See note for air quality.<br><br>Implementation of a new by-pass has the potential to reduce greenhouse gasses through Dinas Powys with an anticipated reduction in traffic flows anticipated, plus the potential for existing car trips to divert to public transport as a result of improved journey times and reliability.<br><br>However, a new by-pass would establish the potential for adverse air quality along this new route with the possibility of encouraging traffic growth in the area as the same benefits of improved journey times and | - |

| Option F: By-Pass | | |
|---|---|---|
| | reliability are experienced by car users. This is not yet quantifiable in the absence of quantitative data, but a slight adverse impact is considered reasonable to assume at this stage of the analysis.<br>The impact of construction on managing greenhouse gasses would also need to be considered. | |
| Landscape | Option F is likely to have a string adverse impact on landscape as the by-pass would be constructed through an existing green field site. | -- |
| Townscape | Whilst improvements would be experienced with regard to townscape and the potential for reduced traffic flows through central Dinas Powys (especially along the A4055 Cardiff Road), implementation of a new by-pass would establish an adverse impact for some areas of Dinas Powys (and other nearby areas outside of the study area) situated near to any proposed route around the urbanised area. Central Dinas Powys could also be adversely affected by increased traffic speeds (unless mitigated) in light of any reduced traffic flows experienced. | -- |
| Historic Environment | No impact identified. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | Whilst no quantitative data is available at this stage of the assessment, it is anticipated that the route could retain a large adverse impact with the development of a new by-pass along an existing green field site. | -- |
| Water Environment | Whilst no quantitative data is available at this stage of the assessment, it is anticipated that a new by-pass could establish a slight adverse impact on the water environment (subject to the implementation of mitigation), with the potential for pollution run-off from the new highway. | - |
| **Economic** | | |
| Journey Time Changes | It is assumed that the implementation of Option F would establish measurable improvements in junction capacity at the key junctions interconnecting with and leading to the new route. On this basis a new by-pass could improve journey times for light traffic, HGVs and public transport including via the existing highway network through Dinas Powys. There is also the potential, if active travel measures are delivered, that there may be additional benefits to walkers and cyclists through enhanced infrastructure provision. | ++ |
| Journey Time Reliability Changes | It is assumed that the implementation of Option F would establish measurable improvements in junction capacity at the key junctions interconnecting with and leading to the new route. On this basis a new by-pass could improve journey time reliability for light traffic, HGVs and public transport including via the existing highway network through Dinas Powys. There is also the potential, if active travel measures are delivered, that there may be additional benefits to walkers and cyclists through enhanced infrastructure provision. | ++ |
| Transport Costs | Any car trips diverted to public transport as a result of improved highway journey times and reliability could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced. It is therefore anticipated that delivery of a new by-pass and associated junction improvements would not reduce the transport costs compared to the do-minimum option. | - |

| Option F: By-Pass | | |
|---|---|---|
| Accidents | Option F has the potential to reduce traffic flow through Dinas Powys and subsequently improve road safety (assuming high traffic flows are currently contributing towards adverse road safety), although reduced traffic flow through the urbanised area could lead to increased road traffic speed therefore mitigating any significant potential improvements in the absence of any local highway improvements and/ or traffic calming measures.<br><br>Delivery of a by-pass to current highway standards affords the possibility of minimising accidents along this new stretch of road with the opportunity to integrate sustainable travel measures as part of the overarching design. | ++ |
| Changes in Productivity | Option F has the potential to improve access to employment for journeys made by car and existing public transport services, it would not however enable those unable to travel by car or existing public transport services to take a full and active role within society. | + |
| Local Economy | Option F has the potential to improve access to employment for journeys made by car and existing public transport services, it would not however enable those not able to travel by car or existing public transport services to take a full and active role within society. | + |
| Land | At this stage of the analysis it is expected that a significant parcel of land would be required to deliver a new by-pass through a mostly green field site. The exact extent and potential costs are unknown at this stage and would require further exploration. | -- |
| Capital Costs | The delivery of the highway improvement options would require a high capital investment from the public sector. | -- |
| Revenue Costs | The highway would continue to require maintenance support from the public sector and it is envisaged that the scheme would result in additional pressure on increasingly stretched highway maintenance budgets. | - |

| Option G: Multi-Modal Option | | |
|---|---|---|
| | **Impacts** | **Scale** |
| **Social** | | |
| Physical Activity | It is expected that Option G would have a moderate beneficial impact on physical activity. | ++ |
| Journey Quality | The current road network forms the main transport infrastructure in the study area which is subject to high levels of traffic and subsequent congestion and poor journey time reliability. However, Option G, through the delivery of highway and sustainable transport enhancements throughout the network, would have the potential to deliver a large beneficial impact to journey quality.<br>In order for the full benefits to be realised the entire corridor improvements would need to be delivered to encompass light traffic, HGVs and public transport users. There is also the potential if active travel measures are delivered to retain additional benefits to walkers and cyclists, ensuring that a safer and more secure transport network is delivered. | +++ |
| Accidents | Option G through the delivery of highway improvements, improved walking and cycling infrastructure, and enhanced public transport services and interchange has the potential to improve road safety through the removal of pinch points, improving the standard of the carriageway, and encouraging people to travel by more sustainable means. | ++ |
| Security | The delivery of new and enhanced public transport waiting facilities, if built with appropriate lighting, real time information, shelters and potentially CCTV could improve the perception of passenger personal security. Together with enhanced security features on new buses and existing rolling stock, such as increased use and CCTV. Improvements to walking and cycling routes and provision of secure storage facilities and robust lighting could further enhance the perception of safety and security throughout the transport network. | ++ |
| Access to Employment | Option G could improve access to employment through the provision of additional public transport services and enhanced local walking and cycling opportunities. The improved journey times achieved through the on-line highway improvements would benefit light traffic, HGVs and public transport users. | +++ |
| Access to Services | Option G could improve access to services through the provision of additional public transport services and enhanced local walking and cycling opportunities. The improved journey times achieved through the on-line highway improvements would benefit light traffic, HGVs and public transport users. | +++ |
| Affordability | Rising cost of transport is resulting in many households struggling to afford to own and run a car, the provision of enhanced public transport and walking and cycling options has the potential to make travel more affordable for some sections of society, most notable the young and the older sections of society. | ++ |
| Severance | With improvements to walking and cycling crossing points, most notably across the A4055 Cardiff Road, severance within the community could be reduced. | + |

| Option G: Multi-Modal Option | | |
|---|---|---|
| Option and Non-Use Values | Option G provides alternatives for current journeys through the provision of increased frequency and enhanced services, and increases the resilience of the transport network by helping to establish an increasingly integrated local and regional transport network. | + |
| **Environmental** | | |
| Noise | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to noise pollution. The improvements in public transport has the potential to encourage a mode shift away from the private car to the bus thus has the potential to improve noise pollution, whilst the improvements to the highway could encourage some to drive more frequently.<br>Local noise pollution may increase in Dinas Powys with an increase in passenger services. Overall and at this stage of the assessment, it is considered that the delivery of an integrated public transport system that benefits from highway works and improvements to public transport, walking and cycling would have a neutral impact on noise. No quantitative data is available at this stage. | 0 |
| Air Quality | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. The increase in buses is not expected to have an adverse impact on air quality compared to the do-minimum option. The improvements in public transport has the potential to encourage a mode shift away from the private car to the bus thus has the potential to improve air quality, whilst the improvements to the highway could encourage some to drive more frequently.<br>Overall and at this stage of the assessment, it is considered that the delivery of an integrated public transport system that benefits from highway works and improvements to public transport, walking and cycling would have a neutral impact on air quality. No quantitative data is available at this stage. | 0 |
| Greenhouse Gasses | Road transport is the dominant mode of transport for journeys in the region (2011 Census) and thus contributes to air pollution. The increase in buses is not expected to have an adverse impact on greenhouse gasses compared to the do-minimum option. The improvements in public transport has the potential to encourage a mode shift away from the private car to the bus thus has the potential to improve the emission of greenhouse gasses, whilst the improvements to the highway could encourage some to drive more frequently.<br>Overall and at this stage of the assessment, it is considered that the delivery of an integrated public transport system that benefits from highway works and improvements to public transport, walking and cycling would have a neutral impact on greenhouse gasses. No quantitative data is available at this stage. | 0 |
| Landscape | Option G is forecast to deliver largely on-line improvements which would have a neutral impact on landscape. | 0 |
| Townscape | The strategic road network passes through the centre of Dinas Powys. The delivery of largely on-line improvements is subsequently considered to have a negligible impact on improving the townscape however, an increase in the number of public transport services has the potential to | 0 |

| Option G: Multi-Modal Option | | |
|---|---|---|
| | have an adverse impact on the townscape. Local junction improvements could reduce traffic volumes through Dinas Powys improving conditions. | |
| Historic Environment | No impact identified at this stage. No quantitative data is available at this stage. | 0 |
| Bio-Diversity | Although no quantitative data is available at this stage, it is envisaged that the scheme could have a neutral impact on biodiversity. | 0 |
| Water Environment | No impact identified at this stage. No quantitative data is available at this stage. | 0 |
| **Economic** | | |
| Journey Time Changes | The current road network forms the main transport infrastructure in the study area which is subject to high levels of traffic and subsequent congestion and poor journey time reliability. However Option G, through the delivery of highway and sustainable transport enhancements throughout the network, would have the potential to deliver a large beneficial impact to journey times.<br>In order for the full benefits to be realised the entire corridor improvements would need to be delivered to encompass light traffic, HGVs and public transport users. There is also the potential if active travel measures are delivered to retain additional benefits to walkers and cyclists, ensuring that a safer and more secure transport network is delivered. | +++ |
| Journey Time Reliability Changes | The current road network forms the main transport infrastructure in the study area which is subject to high levels of traffic and subsequent congestion and poor journey time reliability. However Option G, through the delivery of highway and sustainable transport enhancements throughout the network, would have the potential to deliver a large beneficial impact to journey time reliability.<br>In order for the full benefits to be realised the entire corridor improvements would need to be delivered to encompass light traffic, HGVs and public transport users. There is also the potential if active travel measures are delivered to retain additional benefits to walkers and cyclists, ensuring that a safer and more secure transport network is delivered. | +++ |
| Transport Costs | Rising cost of transport is resulting in many households struggling to afford to own and run a car. The provision of enhanced public transport and walking and cycling has the potential to make travel more affordable for some sections of society, most notable the young and the older sections of society.<br>However, any car trips diverted to public transport as a result of service enhancements and improved highway journey times/ reliability could be offset by more prominent forecast increases in traffic growth as the same benefits are experienced by car users. It is therefore anticipated that delivery of junction improvements would not reduce the transport costs compared to the do-minimum option.<br>The opportunity for more affordable means of travel is therefore mitigated and a slight beneficial impact has been applied. | + |

| Option G: Multi-Modal Option | | |
|---|---|---|
| Accidents | Option G through the delivery of highway improvements, improved walking and cycling infrastructure, and enhanced public transport services and interchange has the potential to improve road safety through the removal of pinch points, improving the standard of the carriageway, and encouraging people to travel by more sustainable means. | ++ |
| Changes in Productivity | The delivery of Option G has the potential to improve access to employment and enable some groups of society who take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | ++ |
| Local Economy | The delivery of Option G has the potential to improve access to employment and enable some groups of society who take a fully active role within society, particularly the younger groups who may not be able to afford to own a car or do not drive. | ++ |
| Land | It is expected that land would need to be purchased in order to deliver infrastructure improvements. The exact extent and potential costs are unknown at this stage and would require further exploration, but walking and cycling connections and park and ride facilities may give rise to a minor adverse impact. | - |
| Capital Costs | The delivery of the highway improvement options would require moderate capital investment from the public sector. The infrastructure enhancements delivered to support public transport and walking and cycling improvements would also likely retain a moderate capital investment. | -- |
| Revenue Costs | The highway would continue to require maintenance support from the public sector and it is expected that bus services would also require subsidy from the public sector. | - |

# 4 Delivery Case

## 4.1 Overview

The Delivery Case *'covers the delivery arrangements for the project and then its management during its life time'*. The WelTAG guidance states that in the Stage One Report the Delivery Case needs to *'set out which organisation and groups within that organisation will sit on the Review Group that meets at the end of each WelTAG stage'.*

## 4.2 Review Group

A Strategic Group has been set up to guide the WelTAG process and have met previously to discuss the project. This group will take on the role of the Review Group and its members are as follows:

- Vale of Glamorgan Council
- Welsh Government
- Network Rail
- Arriva Trains Wales
- Local Bus Operators
- Sustrans

# 5 Financial Case

## 5.1 Overview

The financial case *'presents information on whether an option is affordable in the first place and long term financial viability. It covers both capital and annual revenue requirements over the life cycle of the project and the implications of these for the balance sheet, income and expenditure accounts of public sector organisations'.*

## 5.2 Assessment

This WelTAG report represents the Stage One: Strategic Outline Case and the details to inform the financial case are of a preliminary nature at this stage. The financial case for each option is presented in Table 4, which provides an overall appraisal of the lifetime costs of the project, sources of funding and accounting implications.

At this stage, detailed data on the revenue and capital implications are not available, hence a qualitative assessment of the financial case has been undertaken. Further work will be required to determine the forecast lifetime costs of the project with a greater certainty for the options selected for the Stage Two appraisal.

*Table 4 Financial Case Assessment*

| Option | Lifetime Costs of the Project | | Source of Funding | Accounting Implications | |
|---|---|---|---|---|---|
| **A** | **0** | The delivery of new capital schemes and the continued support for regional and local bus services, requires capital and revenue funding from the public sector. | Local transport fund (capital – to local authorities from the Welsh Government) | **Capital** | Welsh Government |
| | | | | **Revenue** | Local Authority<br>Welsh Government |
| **B** | **--** | Low to high initial capital costs to implement enhanced rail facilities and interchange. It is anticipated that high costs associated with delivering enhanced rail services would be accommodated by wider regional investment in local routes and therefore not specific to Dinas Powys.<br>Revenue implications are likely to exist throughout the lifetime of the project with any increases in services. | Network Rail (capital)<br>Welsh Government / Metro (capital and revenue)<br>Local transport fund (capital)<br>Train Operating Company | **Capital** | Welsh Government |
| | | | | **Revenue** | Welsh Government |
| **C** | **-** | Capital costs to deliver bus infrastructure enhancements would be at the commencement of the project.<br>Capital costs to purchase additional buses would be at the commencement of the project, but | Welsh Government (capital and revenue)<br>Local transport fund (capital) | **Capital** | Welsh Government<br>Local authority via the local transport fund from Welsh Government |

| Option | Lifetime Costs of the Project | | Source of Funding | Accounting Implications | |
|---|---|---|---|---|---|
| | | there would be continued revenue support to maintain the vehicles and purchase replacement vehicles over time.<br>Revenue implications are likely to exist throughout the lifetime of the project. | | **Revenue** | Local authority via the local transport fund from Welsh Government |
| **D** | - | Low to moderate capital costs to deliver walking and cycling enhancements would be at the commencement of the project.<br>Revenue implications are likely to exist throughout the lifetime of the project in terms of maintaining the asset however these are anticipated to be relatively low and not significantly impact on the increasingly stretched local authority revenue budgets. | Welsh Government (capital and revenue)<br>Local transport fund (capital)<br>Local Bus Operators | **Capital** | Welsh Government<br>Local authorities via the local transport fund from Welsh Government |
| | | | | **Revenue** | Local Authority |
| **E** | -- | This option would require moderate to high initial capital costs to deliver the highway infrastructure enhancements.<br>Revenue implications are likely to exist throughout the lifetime of the project in terms of maintaining the asset. It is assumed that the option would largely be on-line improvements and hence would not significantly impact on the increasingly stretched local authority revenue budgets. | Local transport fund (capital)<br>Welsh Government (capital and revenue)<br>Local authority funding (capital and revenue)<br>Road safety grant (capital) | **Capital** | Local authority via the local transport fund from Welsh Government |
| | | | | **Revenue** | Local authority |
| **F** | --- | High initial capital costs to deliver the new by-pass.<br>Revenue implications are likely to exist throughout the lifetime of the project in terms of maintaining the asset, with the potential to adversely impact on the increasingly stretched local authority revenue budgets. | Local transport fund (capital)<br>Welsh Government (capital and revenue)<br>Local authority funding (capital and revenue)<br>Road safety grant (capital) | **Capital** | Welsh Government<br>Local Authority |
| | | | | **Revenue** | Local authority |

| Option | Lifetime Costs of the Project | | Source of Funding | Accounting Implications | |
|---|---|---|---|---|---|
| G | -- | Low to high initial capital costs to implement enhanced rail facilities and interchange. It is anticipated that high costs associated with delivering enhanced rail services would be accommodated by wider regional investment in local routes and therefore not specific to Dinas Powys. Revenue implications are likely to exist throughout the lifetime of the project with any increases in services.<br><br>Capital costs to deliver bus infrastructure enhancements would be at the commencement of the project. Capital costs to purchase additional buses would be at the commencement of the project, but there would be continued revenue support to maintain the vehicles and purchase replacement vehicles over time. Revenue implications are likely to exist throughout the lifetime of the project.<br><br>Low to moderate capital costs to deliver walking and cycling enhancements would be at the commencement of the project. Revenue implications are likely to exist throughout the lifetime of the project in terms of maintaining the asset however these are anticipated to be relatively low and not significantly impact on the increasingly stretched local authority revenue budgets. | Local transport fund (capital)<br><br>Welsh Government (capital and revenue)<br><br>Network Rail<br><br>Train Operating Company<br><br>Local authority funding (capital and revenue)<br><br>Road safety grant (capital)<br><br>Local Bus Operators | **Capital** | Local authorities via the local transport fund from Welsh Government |
| | | | | **Revenue** | Local authorities via the Regional Transport Services Grant and Bus Services Support Grant from Welsh Government<br><br>Welsh Government |

# 6 Commercial Case

## 6.1 Overview

The commercial case covers *'whether it is going to prove possible to procure the scheme and then to continue with it in the future'.*

## 6.2 Assessment

It not considered possible at this stage to determine the commercial case of each option, given the preliminary information available. In particular, there is no available information on the level and type of involvement of the private sector.

In summary:

- There would be on-going revenue support required for each of the options, but as detailed in the delivery case these are expected to be greatest for the public transport options (Options B, C and G), but the extent of each is unknown.
- It is assumed that the delivery of largely on-line improvements with the highway improvement option (Option E) would not have a significant impact on the ongoing maintenance budget of the local authorities, although the delivery of a new by-pass covered under Option F has the potential to adversely impact on existing maintenance budgets which are already under considerable pressure.
- Further exploration into the commercial case would be undertaken during a Stage Two appraisal on the short list of options.

# 7 Summary and Next Stage

## Overview

Arcadis has been commissioned by Vale of Glamorgan Council to develop and appraise potential options for improving the strategic transport network encompassing corridors from Biglis roundabout (Barry) through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The appraisal of options has been undertaken in accordance with the Welsh Government's latest draft version of WelTAG (June 2016). A summary of the guidance is presented in Appendix A.

This WelTAG report presents the development, appraisal and evaluation of transport related projects and has been undertaken with the involvement of key stakeholders. This report presents the Stage One: Strategic Outline Case of the WelTAG process. The WelTAG guide states that the purpose of the Stage One: Strategic Outline Case is to *'understand the issue of concern, explore its context and to present a wide list of possible solutions, with sufficient clarity and depth for the review group to be able to decide whether there are any possible solutions within the transport sector that are worth pursuing and to select a short list of options for more detailed consideration'.*

## Study Area

The study area encompasses the existing transport corridors from Biglis Roundabout, Barry through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The assessment of existing transport corridors shall consider the highway network and public transport within and immediately surrounding Dinas Powys.

## Stakeholder Consultation

A stakeholder workshop was undertaken on Tuesday 7th March 2017 at the Parish Hall, Britway Road, Dinas Powys to which representatives from key stakeholders from across the region representing key employers, public organisations, transport providers and local authority were invited. Appendix C presents a list of the stakeholders who attended the workshop.

The workshop informed all of the key stages of the strategic case, whereby stakeholders were asked to discuss and identify problems, opportunities and constraints, set objectives and identify and discuss potential transport options. In order to inform the discussions at the workshops a draft list of problems, opportunities and constraints were presented. These were derived from a review of existing policy and background reports/ data specific to Dinas Powys.

Initial objectives were provided as a starter for the discussion, alongside a list of potential transport solutions. The presentation from the workshop is presented in Appendix C. At the workshop stakeholders discussed the problems, objectives and transport options in groups, which were then fed back to the group as a whole. The output from the stakeholder workshop have been used to inform this strategic case.

## Public Consultation

A public consultation event was held on Monday 13th March 2017 between 13:30 and 18:30 at the Parish Hall. The event afforded members of the public the opportunity to provide feedback on the identified options, opportunities, and constraints, as well as consideration and suggestions for the objectives and potential transport options. The event was attended by members of the Arcadis project team and Vale of Glamorgan Council officers to facilitate discussion, with specific workstations and feedback forms provided to capture key information from attendees. The output of the public consultation has also been used to inform this strategic case.

## Options

Following the discussions with stakeholders the long list of options considered within this WelTAG report are:

- Option A: Do-minimum
- Option B: Enhanced rail services and interchange
- Option C: Improved bus services and infrastructure
- Option D: Enhanced walking and cycling connectivity

- Option E: On-line highway improvements
- Option F: By-pass
- Option G: Multi-modal option

## Options to be Taken Forward

Following the appraisal of the seven options it is recommended that the following options are taken forward for further investigation into the impacts of the option:

- Option A: Do-minimum
- Option F: By-pass
- Option G: Multi-modal option

The do-minimum option is required as a reference case for consideration of transport options. The by-pass option is recommended to be included in the Stage Two appraisal as it could bring benefits in terms of road traffic reduction in the village. However, without scheme costs, traffic forecasting and cost benefit analysis, it is not possible to appraise the value for money of a by-pass. The multi-modal option is recommended to be included as it potentially brings significant benefits, but also requires further analysis to understand the impacts and value for money.

# APPENDIX A

## WelTAG Guidance Summary

# The WelTAG Guidance

## What is WelTAG?

The Welsh Government defines WelTAG as the 'framework for thinking about proposed changes to the transport system'. The WelTAG process is designed to provide a framework for:

- Structuring the thinking around the problem being tackled;
- Identifying possible solutions;
- Refining options so as to maximise the benefits and minimise any adverse impacts; and
- Consider the wide range of possible consequences of implementing the solutions.

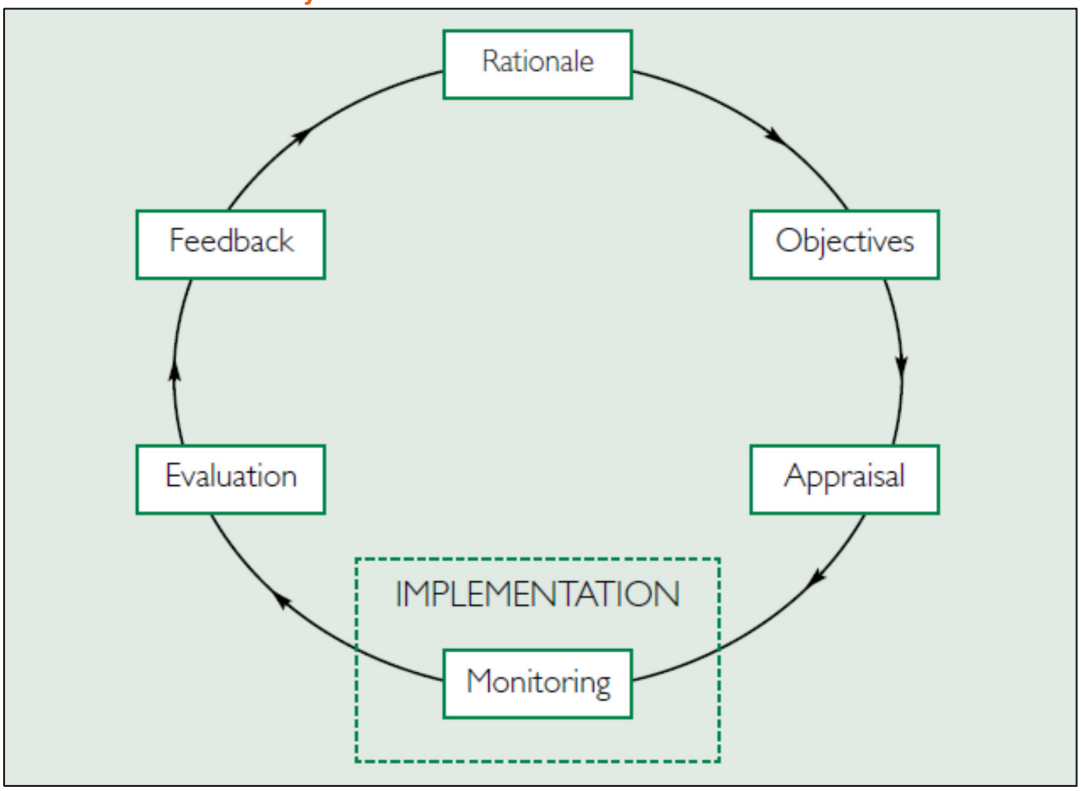
The Welsh Government state that the WelTAG guidance should be applied to all transport interventions regardless of their cost, as it will lead to the design of better and more effective interventions.

## What is the WelTAG Process?

WelTAG is based on the ROAMEF cycle (Rationale, Objectives, Appraisal, Monitoring, Evaluation, and Feedback) as shown in **Figure A.1**. It covers the whole of a project lifecycle which runs from the initial identification of an issue that needs addressing to the evaluation of the measures implemented to address that issue. The ROAMEF cycle:

- Starts with a statement of the rationale for the project. This identifies the need for an intervention in the transport system and the development of a set of clear objectives;
- The appraisal stage considers the social, environmental and economic impacts of the scheme. It provides an assessment of how well the project alternatives achieve these objectives, guides the development of those alternatives and guides the selection of the final scheme chosen for implementation;
- The monitoring phase covers the tracking of the performance of the project during and after implementation;
- The evaluation phase applies this information to consider what is working and why; and
- Feedback may lead to modifications of the current project and provides lessons for the development of future schemes.

**Figure A.1 – The ROAMEF Cycle**[1]




## The WelTAG Stages

There are five WelTAG stages. The first three stages lead up to the selection of the proposed intervention, whilst the final two stages cover the period during and after implementation. The output produced at the end of each stage is a short document known as a WelTAG stage report. Alongside the WelTAG stage reports is the *Impacts Assessment Report*, which contains the more detailed analysis that lies behind the material presented in the stage reports. The five stages of WelTAG are summarised in **Table A.1**.

**Table A.1 – The Five WelTAG Stages**

| WelTAG Stage | Task | Action |
|---|---|---|
| **Stage One: Strategic Outline Case** | Understand the problem and develop a long list of possible solutions | Select short list of options |
| **Stage Two: Outline Business Case** | Further investigation of the shortlisted options | Select preferred option |
| **Stage Three: Full Business Case** | Detailed and thorough appraisal of preferred option | Proceed with preferred option or revisit an alternative |
| **Stage Four: Implementation** | Deliver the preferred option | Monitor impacts and make modifications if necessary |
| **Stage Five: Post Implementation** | On-going operation of the preferred option | Evaluate the intervention and record lessons learnt |

[1] Welsh Transport Planning and Appraisal Guidance (WelTAG) (draft version, June 2016)

## Five Case Model

The WelTAG guidance is compatible with the Welsh Government's Five Case Model for Public Sector Business Cases. The contents of each WelTAG stage report must be presented using the structure of the Five Case Model used by the Welsh Government and HM Treasury. The five cases are as follows:

- **Strategic case** – the case for change, together with the fit with policies and objectives;
- **Transport case** – the social, environment and economic impacts of the change including a value for money assessment;
- **Delivery case** – the deliverability of the scheme;
- **Financial case** – the affordability of the scheme; and
- **Commercial case** – the commercial viability of the scheme.

The amount of detail available for each of the five cases will vary between the cases in the early stages of the WelTAG process. The WelTAG guidance states that during Stage One:

- The strategic case will be almost fully developed as this sets out the need for change;
- The transport case will provide an initial assessment of the expected impacts of each of a long list of options for tackling the issue under consideration. The assessment will be based predominately on currently available evidence; and
- The delivery, commercial, and financial cases will be of a preliminary nature but must consider all the key issues which would affect the selection of options taken forward for further investigation.

## Appraisal of Impacts

A WelTAG guidance states that the appraisal of impacts should consider:

- The wide range of possible impacts of the current situation caused by the problem under examination;
- The likely impacts into the future if no action is taken; and
- The difference the proposed intervention would make and any other impacts that would result from implementation of the proposed solution.

The impacts should be presented under three headings; social, environmental and economic. The WelTAG guidance states that each of the impacts presented in **Table A.2** should always be considered, but the list is not exhaustive. The aim of the WelTAG appraisal at each stage is to present a summary of each potential impact, indicating the nature of the impact, its severity and which groups of people or locations will be affected.

**Table A.2 – WelTAG Appraisal Impacts**

| Social | Environmental | Economic |
|---|---|---|
| **Physical activity:** the amount of walking, cycling and other physical exercise undertaken by people<br><br>**Journey quality:** (no detail provided)<br><br>**Accidents:** the number and severity of injuries<br><br>**Security:** how safe do people feel<br><br>**Access to employment:** how many jobs can people reach and what is the journey time<br><br>**Access to services:** impact on journeys to key services such as health facilities, schools<br><br>**Affordability:** is there any change to the cost of travel paid by users<br><br>**Severance:** do any groups of people become separated from others or facilities they regularly use<br><br>**Option and non-use values:** does the scheme provide alternatives for current journeys and does it change the resilience of the transport system | **Noise:** does anyone experience a change in noise levels<br><br>**Air quality:** are there changes in air quality<br><br>**Greenhouse gases:** is there a change in the amount of greenhouse gases emitted<br><br>**Landscape:** is there a visual or other impact on the landscape<br><br>**Townscape:** is there a visual or other impact on the townscape<br><br>**Historic Environment:** are there any changes in areas of historical interest<br><br>**Biodiversity:** is there an impact on wildlife and the number of species<br><br>**Water Environment:** is there an impact on water courses | **Journey time changes:** across all affected modes for users and non-users of the scheme<br><br>**Journey time reliability changes:** changes in the variation in journey times between times of days and between journeys made at the same time each day<br><br>**Transport costs:** monetary costs paid by those travelling e.g. vehicle operating costs, tolls, public transport fares<br><br>**Accidents:** the cost of accidents<br><br>**Changes in productivity:** availability of suitable labour for employers, changes in agglomeration effects<br><br>**Local economy:** how does the scheme affect the sectors in the local economy<br><br>**Land:** does the scheme reduce the amount of agricultural land, does it open up development sites<br><br>**Capital costs:** to the public sector, to private sector from the scheme itself and from the impacts<br><br>**Revenue costs:** to the public sector, to private sector, to end users from the scheme itself and from the impacts |

# APPENDIX B

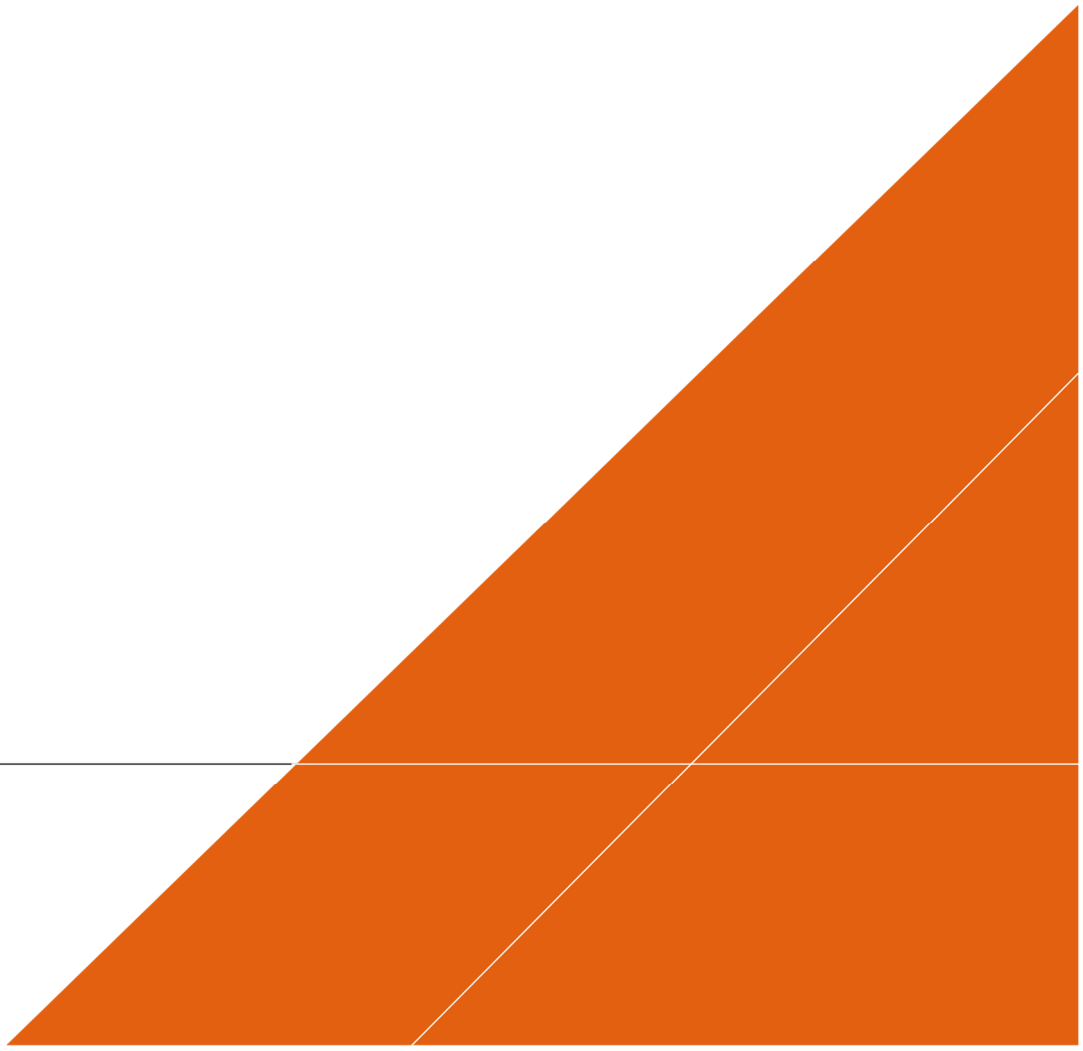
## WelTAG Stage One: Impacts Assessment Report

ARCADIS Design & Consultancy for natural and built assets

# IMPROVING STRATEGIC TRANSPORT FOR DINAS POWYS

## WelTAG Stage One: Impacts Assessment Report

JULY 2017



Incorporating

EC HARRIS BUILT ASSET CONSULTANCY

Hyder

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# VERSION CONTROL

| Version | Date | Author | Changes |
|---|---|---|---|
| D01 | 21/03/2017 | M. FRY | - |
| D02 | 07/07/2017 | M. FRY | FINAL ISSUE |

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# 1 Introduction

## 1.1 Background

Arcadis Consulting (UK) Limited has been commissioned by Vale of Glamorgan Council to develop and appraise potential options for improving the strategic transport network encompassing corridors from Biglis roundabout (Barry) through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. The appraisal of options has been undertaken in accordance with the Welsh Government's latest draft version of WelTAG (June 2016).

## 1.2 Stage One Impacts Assessment Report

This report presents the Stage One: Strategic Outline Case Impacts Assessment Report. The WelTAG guidance states that the WelTAG report should be supported by an Impacts Assessment Report. The Impacts Assessment Report *'is a live document which is maintained and grows throughout the five WelTAG stages. It becomes a permanent record of the appraisal work on the proposed transport intervention. It contains the detailed evidence behind the summary information provided to decision makers in the Stage reports'.*

## 1.3 Appraisal Methodology

In accordance with the WelTAG guidance the significance and scale of the impacts throughout the assessment has been appraised using a seven-point scale. The seven-point scale used throughout the appraisal is presented in Table 1.

*Table 1 WelTAG Seven-Point Assessment Scale*

| | |
|---|---|
| Large beneficial | +++ |
| Moderate beneficial | ++ |
| Slight beneficial | + |
| Neutral | 0 |
| Slight adverse | - |
| Moderate adverse | -- |
| Large adverse | --- |

## 1.4 Report Structure

The structure of this report is as follows:

- Chapter 2 presents a summary of the policy framework at the local, regional and national level;
- Chapter 3 presents the context of the study;
- Chapter 4 sets out the detailed information which has informed the strategic case; and
- Chapter 5 summarises the data sources used within the study, in accordance with the WelTAG guidance.

# 2 Policy

## 2.1 Overview

This section provides a summary of the policy framework within which this study is situated.

## 2.2 National

### Wales Transport Strategy (2008)

The Wales Transport Strategy (WTS) published in 2008 sets out the Welsh Government's aim to improve transport. The WTS focuses on the role that transport can play in delivering the wider policy agenda of integrating transport with spatial planning, economic development, education, health, social services, and environment and tourism, whilst meeting the strategic agenda and the implementation framework of the (then) Wales Spatial Plan. The vision of the WTS is *'to promote sustainable transport networks that safeguard the environment while strengthening our country's economic and social life'*.

The WTS sets out five priorities, which provide additional strategic direction and work towards the long-term outcomes and maximise the scope for local solutions to transport challenges within a consistent national framework. The five priorities are:

- Reducing greenhouse gas emissions and other environmental impacts;
- Improving public transport and better integration between modes;
- Improving links and access between key settlements and sites across Wales and strategically important all-Wales links;
- Enhancing international connectivity; and
- Increasing safety and security.

The WTS has three key sustainable transport themes and a number of desired outcomes, which underpin the strategy. The three themes underpinning the strategy are:

- Achieving a more effective and efficient transport system;
- Achieving greater use of the more sustainable and healthy forms of travel; and
- Minimising demand on the transport system.

### Active Travel (Wales) Act (2013)

The Active Travel (Wales) Bill makes provision for the mapping of active travel routes and related facilities. The Act was passed by the National Assembly of Wales and also seeks to secure new and enhanced active travel routes and facilities; improving provision for walkers and cyclists. The purpose of the Bill is for local authorities to continuously improve their facilities and routes for pedestrians and cyclists e.g. through provision of shelter, resting and/or storage facilities. The Act further requires Welsh Ministers to publish public annual reports regarding the extent to which walkers and cyclists make active travel journeys in Wales.

### Well-being of Future Generations (Wales) Act 2015

The Act strives to improve the social, economic, environmental and cultural well-being of Wales. The vision is *'in 2050, Wales will be the best place to live, learn, work and do business'*. The Act makes the public bodies listed in the Act consider the longer-term perspective; engage with people and communities and each other; prevent problems; and to deliver a joined-up approach.

The draft goals to represent what the long term economic, social and environmental well-being of Wales would look like are:

- Wales is prosperous and innovative;
- Wales uses a fair share of natural resources;

- Communities across Wales are safe, cohesive and resilient;
- People in Wales participate in our shared culture, with a thriving living Welsh language;
- People in Wales are healthier; and
- Wales is a more equal nation.

### National Transport Finance Plan (2015) and Evidence Base (2015)

The purpose of the National Transport Finance Plan (2015) is to provide the timescale for financing schemes, the timescale for delivering schemes, detail the estimated expenditure, and identify the likely source of financing to enable delivery.

The plan includes both revenue and capital initiatives, ranging from specific schemes to others where further investigatory and development work is required. The relevant schemes to this study include:

- CCRM5 – METRO Phase 1 Bus Priority Corridor Improvements including Cardiff - Dinas Powys Express (2015/16 delivery period);
- BCT2 – Develop options for targeted funding for bus and community transport services (2015 and beyond 2020 delivery period), focusing on rural services, access to health facilities, including hospitals and other key health facilities and access to employment sites;
- BCT12 – Work with local authorities and bus operators to identify congestion and pinch points on the network that impact on bus reliability and punctuality, and ensure that solutions are integrated into wider highway improvements programme; and
- BCT14 – Develop a package of bus priority measures along key strategic corridors (both schemes have a delivery period from 2015 and beyond 2020).

## 2.3 Local

### Vale of Glamorgan Local Transport Plan

The Vale of Glamorgan Local Transport Plan (LTP) has been established to recognise the diverse economic and social geography, and overlapping labour and housing markets, that exist throughout the Capital Region (encompassing Cardiff, Blaenau Gwent, Bridgend, Caerphilly, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taf, Torfaen and the Vale of Glamorgan).

Whilst acknowledging the requirement for a collaborative approach for the future development of the Capital Region, the LTP seeks to identify the sustainable transport measures required to ensure the Vale of Glamorgan Council adheres to current requirements and good practices to allow for a sustainable transport environment for the period 2015 to 2020, as well as looking forward to 2030. The plan therefore seeks to secure better conditions for pedestrians, cyclists and public transport users and to encourage a modal shift away from the single occupancy car. The LTP also *'seeks to tackle traffic congestion by securing improvements to the strategic highway corridors for commuters who may need to travel by car'.*

The LDP strategic policy in relation to Transportation (SP7) reads as follows: *'Sustainable transport improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and promote the objectives that can be found in the South East Wales Regional Transport Plan 2010 – 2015 will be favoured.'*

*'Priority will also be given to schemes that improve highway safety and accessibility, public transport, walking and cycling.'*

The plan highlights actions required including:

- In partnership with bus operators, negotiate expansion of current bus services, linking to key settlements and interchanges.
- Encourage use of community transport provision to sustain and entice bus operators/ community transport providers to take over once grown to acceptable sustainable level of patronage.

- To deliver existing safe routes in communities' schemes identified by schools and the public and encourage more schemes to come forward for consideration and implementation.
- In partnership with bus operators, negotiate expansion of current services, linking routes where there needs to be interchange and ensuring timings of connections are acceptable. Encourage use of integrated ticketing for services. Increase Community Transport to cater for demand.
- Provide bus priority for Dinas Powys to Cardiff corridor to include Penarth; and
- Deliver highway improvement schemes at key locations including Dinas Powys.

## Vale of Glamorgan Deposit Local Development Plan (2013)

The Vale of Glamorgan's Local Development Plan LDP (2011- 2026) has reached an advanced stage of preparation and has recently been subject to Examination. The LDP sets out the vision, objectives, strategy and policies for managing development in the Vale of Glamorgan, and contains a number of local planning policies and makes provision for the use of land for the purposes of housing, employment, retailing, recreation, transport, tourism, minerals, waste, and community uses. It also seeks to identify the infrastructure that will be required to meet the growth anticipated in the Vale of Glamorgan up to 2026.

### Development in the South East Zone

The LDP strategy seeks to promote new development opportunities in the 'South East Zone' (which includes the urban settlements of Barry, Dinas Powys, Llandough (Penarth), Penarth and Sully. The South East Zone accommodates the majority of the Vale of Glamorgan's population and is said to benefit from a wide range of services and facilities including a choice of transport links to Cardiff and the wider region.

Barry is identified as a key settlement within the LDP Settlement Hierarchy. Penarth has been identified as a Service Centre Settlement and Dinas Powys a Primary Settlement. A number of specific area objectives have been identified, relevant to this study:

- Barry - Improve access to and within Barry, through strategic and local highway improvements and a range of sustainable transport measures, which will support regeneration whilst at the same time effectively managing congestion on the town's main arterial roads;
- Penarth - Promote Penarth as a 'sustainable transport town' by encouraging new and enhanced walking and cycling links within the town and between the town and adjoining residential and commercial areas, including Cardiff Bay, and facilitating park and ride provision; and
- Primary Settlement (Dinas Powys) - Promote sustainable transport measures and related facilities in order to reduce dependence on the private car.

Policy SP 7 – Transportation *'Sustainable Transport Improvements that serve the economic, social and environmental needs of the Vale of Glamorgan and promote the objectives of the South East Wales RTP'.* Key priorities identified for delivery of strategic infrastructure relevant to this study include:

- Cycle Routes at Barry Waterfront to Dinas Powys;
- Electrification of the Vale of Glamorgan [rail] line;
- Bus priority measures at Merrie Harrier Cardiff Road Barry to Cardiff via Barry Road;
- All new developments that have a direct impact on the strategic transportation infrastructure will be required to deliver appropriate improvements to the network; and
- Priority will also be given to schemes that improve highway safety and accessibility, public transport, walking and cycling.

The Sewta Highway Strategy (2008) identified the A4055 through Dinas Powys as a key problem area of the regional road network, due to the scale of traffic and associated problems. The LDP states *'Barry Waterfront to Cardiff Link Road (Dinas Powys By-Pass) was viewed as having dual benefits, helping to alleviate traffic congestion and improve road safety on the A4055 through Dinas Powys, while having the potential to improve access to the wider road network. Issues at the Cogan Spur and Merrie Harrier Junctions, however, would be difficult to overcome'.*

*'The Regional Transport Plan (RTP) (2010) states that the scheme offers positive outcomes and should be subject to further development and evaluation within the investment programme. Whilst the Council supports this scheme in principle, it is considered unlikely that it will come to fruition during the Plan period, given the current economic climate and the Welsh Government's preference to make better use of the existing transport system and highway network via the enhancement of public transport routes and provision of new facilities for walking, cycling and rail. Accordingly, the proposed link road / bypass is not included within the LDP'.*

## Highway Impact Assessment, LDP Background Paper (2013)

Capita Symonds was commissioned by the Vale of Glamorgan Council to undertake a capacity assessment of the impact of possible future LDP residential development sites on the strategic highway network. This forms part of the evidence base for the LDP. Within Dinas Powys four proposed LDP residential sites have been included within the assessment totalling 440 units.

Table 2 presents the link and junction capacity assessment results within the study area (based on Ratio of Flow to Capacity (RFC)/ degree of saturation) for the base year and the future year with the LDP proposals having taken place. The table shows that four junctions within the study area are identified as forecast to be over capacity in the future year.

*Table 2 Link and Junction Capacity Assessment Results*

| Link / Junction Name | 2012 AM | 2012 PM | 2026 AM | 2026 PM |
|---|---|---|---|---|
| Cardiff Road, Dinas Powys (North) (Link 209) | Within capacity | Within capacity | Within capacity | Within capacity |
| Barry Road, Barons Court SB (Link 207b) | Within capacity | Within capacity | Within capacity | Within capacity |
| Barry Road, Barons Court NB (Link 207) | Within capacity | Within capacity | Within capacity | Within capacity |
| Cardiff Road/ Murch Road/ Millbrook Road (Junction 8) | Over capacity | Over capacity | Over capacity | Over capacity |
| Merrie Harrier (Junction 9) | At capacity | At capacity | Over capacity | Over capacity |
| Barons Court (Junction 10) | At capacity | At capacity | Over capacity | Over capacity |
| Leckwith Road/ Pen-y-Turnpike Road Priority (Junction 12) | Within capacity | Within capacity | Over capacity | Over capacity |

## Sustainable Transport Assessment (LDP Background Paper; 2013)

The Sustainable Transport Assessment forms part of a series of topic papers prepared by the Vale of Glamorgan Council as part of the evidence base used to inform the production of policies and site allocations for the Deposit Local Development Plan. This assessment seeks to identify the sustainable transport measures required to create and ensure a sustainable transport environment in the Vale of Glamorgan.

The Vale of Glamorgan Council is committed to reducing the environment impact of its activities and as such seeks to provide transport infrastructure and transport services to assist the public to choose sustainable travel modes for all journeys where possible. This includes for all new developments to include off-road

shared use walking/ cycling routes where possible and cycle signs on main roads where off-road facilities are not practical.

### Walking and Cycling

A number of walking and cycling schemes have been funded / proposed in study area since the Regional Transport Plan Capital programme implementation began in April 2010, these include:

- Barry to Dinas Powys £30,000– Funding has been granted to carry out feasibility for a new pedestrian and cycling link from the McDonalds roundabout on Cardiff Road Barry to Dinas Powys;
- The Ash Path, Dinas Powys £25,000 – This funding is to allow the Council to negotiate with land owners to enable the provision of a shared footway / cycleway on public rights of way 25 and 28c to enable a link between Dinas Powys and Sully Road, Penarth;
- Opening up access to the Cross Common in Dinas Powys; and
- Footpath improvements linking Dinas Powys with Michaelston Le Pit.

It is considered necessary that the strategic route of Barry Waterfront to Dinas Powys is considered for improvement of the national cycle network in the Vale of Glamorgan.

### Bus

Within the last five years, funding for bus services has declined. There has been a reduction of £8m of Grant throughout Wales despite the agreed objectives of increased patronage and improved services still standing.

Dinas Powys to Cardiff Corridor and Merrie Harrier Cardiff Road Barry to Cardiff via Barry Road are considered necessary links for the development of bus priority measures. The Vale of Glamorgan Council has implemented one bus priority scheme on Cardiff Road to reach the Merrie Harrier junction. In order for buses to benefit further on the Dinas Powys to Cardiff corridor, further consideration should be given to Leckwith and/or Barry Road.

The assessment recognises that Barry would benefit from having a bus interchange along the railway line. This would enable good accessibility between bus and rail to cater for the North of Barry.

## Rapid Transport for Cardiff: Scoping, Feasibility, Engineering and Economic Study (2013)

A study to carry out a scoping and feasibility investigation and associated economic assessment of a possible Rapid Transit network for Cardiff, was undertaken by TRL Limited, comprising Appendix M of the Deposit LDP. The report examines the feasibility of several potential rapid transit corridors including; City Centre to Cardiff Bay and Penarth (within the Vale of Glamorgan), considered for further more detailed study.

Feasible alignments have been sought for the following separate sections of the transport corridor:

- City Centre to Cardiff Bay;
- Cardiff Bay to Cogan Station;
- City Centre direct to Cogan Station;
- Cogan Station to Penarth; and
- Cardiff Bay direct to Penarth.

## City of Cardiff Council

The following documents have also been noted:

- Cardiff Local Transport Plan (2015)
- Cardiff Deposit Local Development Plan 2006 – 2026 (adopted 2016)

# 3 Context

## 3.1 Introduction

This section presents a summary of the issues and opportunities within the study area. The Sewta RTP (2010), Vale of Glamorgan deposit LDP (2013) and LTP (2015 – 2030) form a key source of data setting out the context of this study.

## 3.2 Study Area

The Vale of Glamorgan administrative area lying west of Cardiff between the M4 and the Severn Estuary is characterised by a pattern of small settlements and approximately 85% of which comprises agricultural areas. The Vale of Glamorgan has a population of approximately 126,600 (2011 Census) which has increased by circa 5% since 2001, with population statistics presented in Table 3. Its neighbouring local authorities are Bridgend County Borough Council to the west, the City of Cardiff Council to the east and Rhondda Cynon Taff County Borough Council to the north.

*Table 3 Population Development Statistics*[1]

| Location | 2011 Population | Population Change (since 2001) |
|---|---|---|
| **Dinas Powys** | **7,490** | **-2%** |
| Penarth | 27,226 | +16% |
| Barry | 54,673 | +7% |
| Vale of Glamorgan | 127,600 | +5% |

The deposit LDP (2013) recognises the M4 and A48 as key strategic road links within the county, connecting with to the wider south east region and beyond. The A4055 through Dinas Powys connects to the strategic network via the Cogan Spur to the A4232 link road to the M4 Junction 32 and via the A4055 to the A4231 and A4050 to Culverhouse Cross.

By rail, Dinas Powys is connected to the region via the Vale of Glamorgan Rail Line which connects Bridgend, Barry and Cardiff and locally includes Eastbrook and Dinas Powys rail stations. In addition, Cardiff Airport is located at Rhoose (approximately 12.5km west of Dinas Powys).

Barry has been identified as a key settlement in both the RTP (2010) and deposit LDP (2013). It is recognised as an important hub for social and economic activity and a focus for new development and regeneration, including new housing, employment and retail development. Barry's population grew by 7% over the decade from 2001, to a population of approximately 54,673.

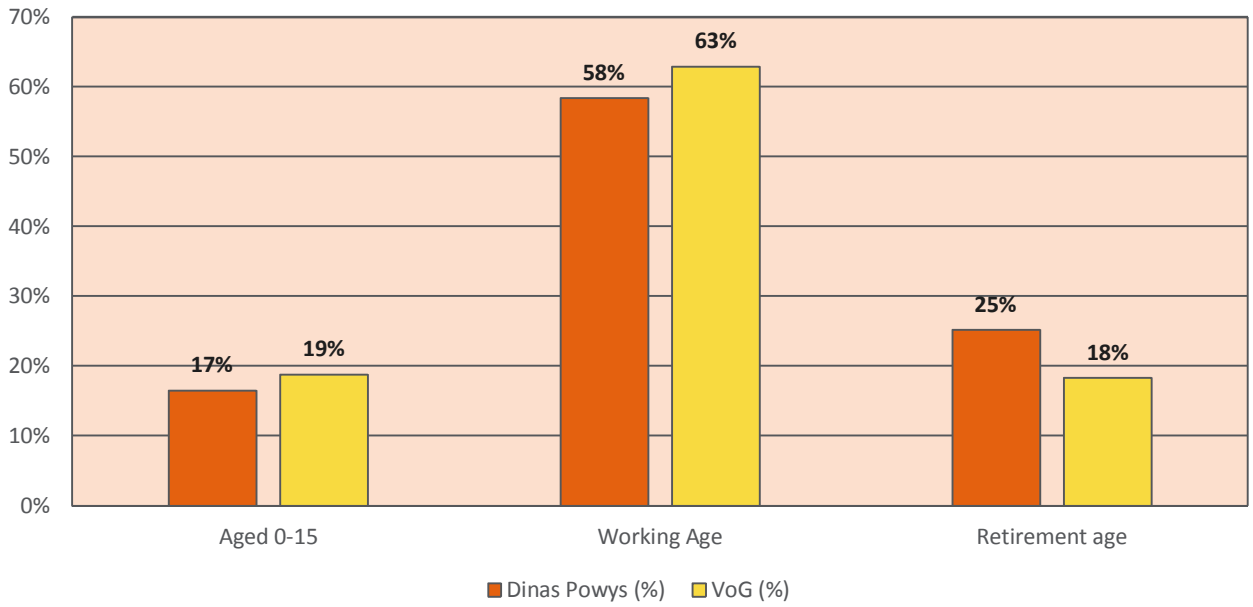
The deposit LDP (2013) identifies Penarth as a Service Centre Settlement as a result of having a significant resident population, good public transport provision, local employment opportunities, established town centre and a wide range of cultural, educational and community services and facilities. Penarth has a population of 27,226 which grew 16% from 2001 to 2011.

Dinas Powys has been identified within the deposit LDP (2013) as a primary settlement, providing a choice of housing and facilities to meet local needs. Dinas Powys has a population of 7,490 which decreased by 2% from 2001 to 2011.

[1] https://www.citypopulation.de/php/uk-wales.php?adm2id=W06000014

The age profile of the population find that Dinas Powys has a population aged 0-15 of 17%, working age 58% and 25% of retirement age which is considerably lower for children and working age adults and higher for retired people than that for the Vale of Glamorgan overall, see Figure 1.

*Figure 1 Age Profiles 2011 Census*




The Vale of Glamorgan exhibits considerable socio-economic diversity containing some of the most affluent and the most deprived communities in Wales in respect of employment, income, education, health and community safety. The Welsh Index of Multiple Deprivation (WIMD) 2014[2], shows that of the 79 lower super output areas (LSOA) in the Vale of Glamorgan, 5% of which are contained with the most deprived 10% LSOA in Wales. Although Dinas Powys has some of the least deprived LSOA in the county, the study area is close to Barry which retains some of the most deprived areas.

*Table 4 Employment Statistics Census 2011*

| Economic Activity | Dinas Powys | The Vale of Glamorgan | South East Wales | Wales |
|---|---|---|---|---|
| Employed | 62% | 62% | 58% | 58% |
| Unemployed | 3% | 4% | 5% | 4% |
| Retired | 22% | 16% | 15% | 16% |
| Student | 7% | 7% | 10% | 9% |
| Other | 7% | 7% | 13% | 12% |

A summary of employment statistics for Dinas Powys has been included as Table 4 against regional and national statistics. Census data (2011) shows that there was a higher percentage of those employed within Dinas Powys and also the Vale of Glamorgan as a whole (figures at 62%) compared with 58% for SE Wales and Wales as a whole. There is a significantly higher population of retired people within Dinas Powys compared to the Vale of Glamorgan, South East Wales and Wales as a whole.

[2] http://gov.wales/docs/statistics/2015/150812-wimd-2014-summary-revised-en.pdf

## Environmental and Land-use Characteristics

The Vale of Glamorgan benefits from a wide range of environmental resources. According to the deposit LDP (2013), there are also a large number of national and locally important designated sites of nature conservation value which provide important habitats for local biodiversity including protected species. Figure 2 provides a snapshot of the study from the LDP Proposals Map (2013). The residential area of Dinas Powys is adjoined by a green wedge to the east, several sites of importance for nature and conservation (north and south), special landscape areas (north) and designated areas containing minerals (to the west, south and north).

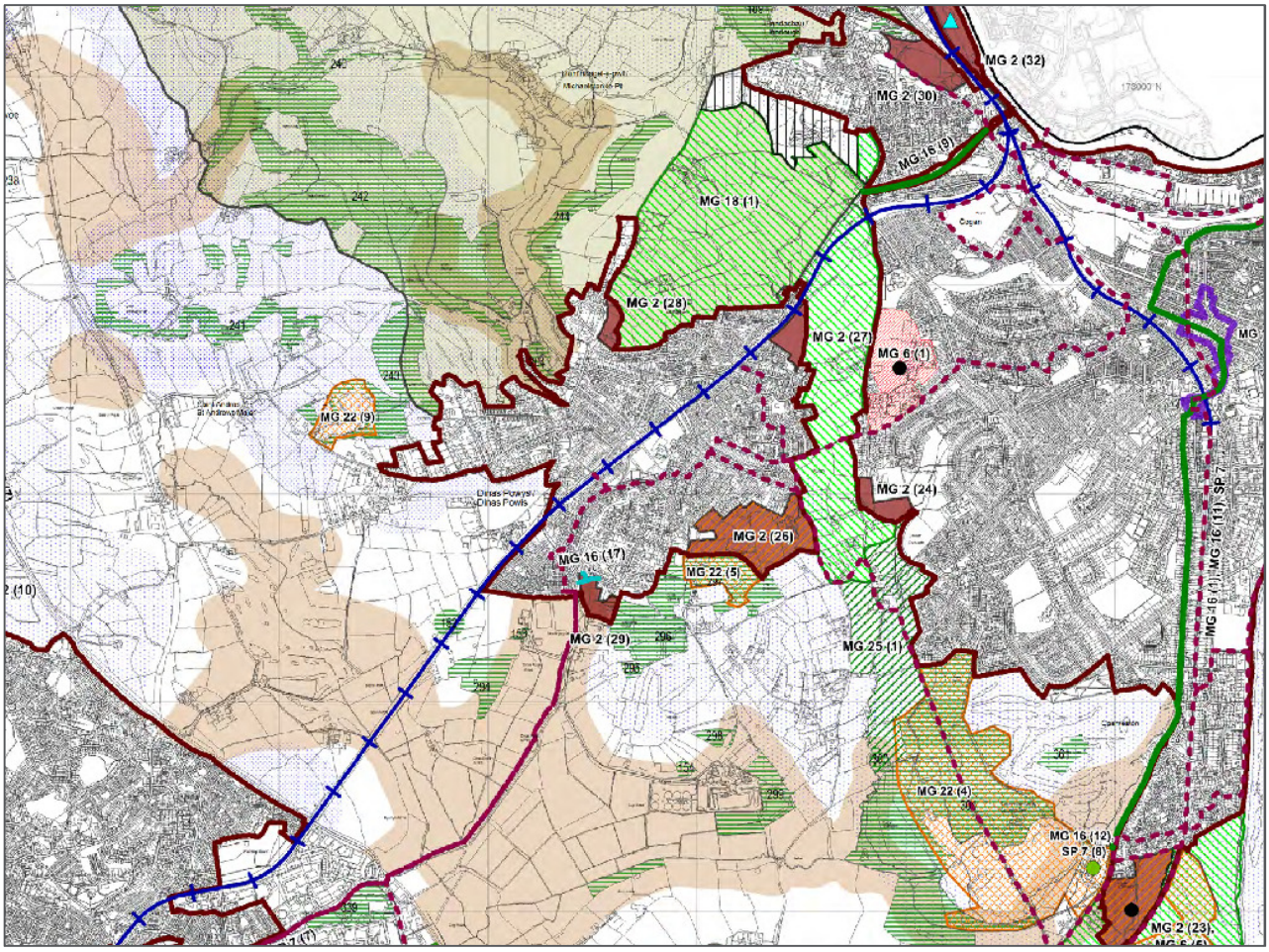
In terms of cultural heritage, the Vale of Glamorgan has approximately 740 listed buildings, over 100 Scheduled Ancient Monuments, 39 Conservation Areas, 18 areas included in the Register of Historic Parks and Gardens and 2 areas on the Register of Landscapes of Historic interest in Wales. Table 5 lists the listed buildings within Dinas Powys.

*Table 5 List of Listed Buildings in Dinas Powys*[3]

| Listed building | Grade |
|---|---|
| 1-6 Little Orchard, Cherry Close | 2 |
| Barn at Biglis Farm | 2 |
| Biglis Farmhouse | 2 |
| Church of St Andrew | 2 |
| Church of St Peter | 2 |
| Churchyard cross in St Andrew's Churchyard | 2 |
| Dinas Powys Parish Hall | 2 |
| Downs Farmhouse | 2 |
| Garn-hill and attached garden terrace | 2 |
| Lon Twyn | 2 |
| Old Court, 16 Elm Grove Lane | 2 |
| Remains of Dinas Powys Castle, Lettons Way | 2 |
| The Bier House in St Andrew's Churchyard, St Andrews Major | 2 |
| The Mount | 2 |
| The Old Rectory, St Andrews Major | 2 |
| War Memorial, Elm Grove Lane | 2 |

[3] Vale of Glamorgan Listed Buildings Inventory - https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Listed%20Buildings/Listed_Buildings_Inventory_October_2011.pdf

*Figure 2 Section of the Vale of Glamorgan LDP Proposals Map (2013)*[4]




## Air Quality

According to the 2016 Air Quality Progress Report for Vale of Glamorgan, the overall air quality across the county complies with regulations to protect human health. Data for 2012 did highlight that at some locations road traffic emissions of nitrogen dioxide (NO2) are at, or close to, the relevant annual average concentration of 40ug/m3. These were recorded at Windsor Road, Penarth; Cogan Roundabout; Railway Terrace, Cardiff Road, Dinas Powys; Tynewydd Road, Barry; and Culverhouse Cross. Cogan Roundabout and Railway Terrace lie within the study area, with Windsor Road is situated just outside.[5]

There are no Air Quality Management Areas (AQMA) within the study area. There is however an AQMA situated nearby on Windsor Road, Cogan, Penarth (Figure 3).[6]

The Vale of Glamorgan monitor derived N02 at four locations within close proximity to the A4055/ Murch Road junction via use of passive diffusion tubes, including monitoring at Dinas Powys Primary School. There are currently a further six NO2 monitoring locations, four located along and in close proximity to Railway Terrace on Cardiff Road (A4055) and two of which are situated in relatively close proximity to the Merrie

[4] https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/LDP-2013/02-LDP-Proposals-Map-2013.pdf

[5] 2013 Air Quality Progress Report for Vale of Glamorgan

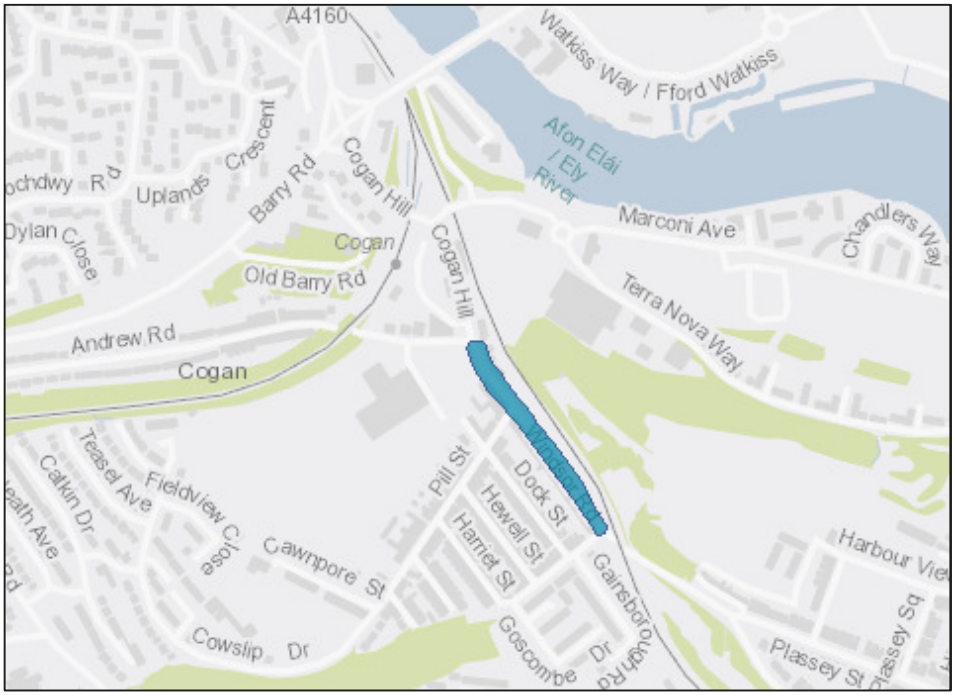
[6] Department for Environment Food & Rural Affairs - https://uk-air.defra.gov.uk/aqma/maps

Harrier signalised junction, situated at the façade of a residential property on Andrew Road and on the A4055 which is directly adjacent to the traffic light system. The datasets from the last five years levels are generally all below the set national objective limits for NO2. NO2 levels have been found below the set national annual and one hour objectives for NO2 (40µg/m3 & 200 µg/m3 not to be exceeded more than 18 times per year). The overarching results are highlighted in Table 6.[7]

*Table 6 NO2 levels in Dinas Powys*

| Site ID | Grid Reference | Annual Mean Concentration (µg/m³) | | | | |
|---|---|---|---|---|---|---|
| | | 2012 | 2013 | 2014 | 2015 | 2016 |
| Site ID 7 (Cardiff Road/ Millbrook Junction) | 315773 171514 | 29.4 | 28.5 | 26.3 | 24.6 | 25 |
| Site ID 46 (46 Cardiff Road) | 315747 171369 | 23.7 | 22 | 19.7 | 18.6 | 18 |
| Site ID 47 (Dinas Powys Health Centre) | 315710 171385 | 19.2 | 17.5 | 15.6 | 14.4 | 13 |
| Site ID 72 (Dinas Powys Primary School) | 315841 171527 | 29.1 | 24.1 | 27.8 | 23.8 | 22 |
| Site ID 61 (Railway Terrace) Cardiff Road | 316433 171932 | 39.7 | 34.6 | 31 | 30.1 | 31 |
| Site ID 67 (2 Matthew Terrace) Cardiff Road | 316488 172004 | 28.8 | 30 | 26 | 24.2 | 27 |
| Site ID 89 (9 Wayside Cottage) | 316447 171963 | N/A | 34 | 31.2 | 30.8 | 31 |
| Site ID 90 (16 Railway Terrace) | 316453 171945 | N/A | 27 | 24.6 | 21.4 | 21 |
| Site ID 56 (Andrew Road) | 317595 172435 | 40.3 | 38.5 | 33.9 | 29.4 | 17 |
| Site ID 70 (Ty-Isaf) | 316731 172391 | 23 | 19 | 21.9 | 23.2 | 24 |

*Figure 3 Air Quality Management Area – Windsor Road, Cogan[8]*




[7] Vale of Glamorgan Council 2016 Air Quality Progress Report - http://www.srs.wales/Documents/Pollution/Air-Quality-Reports/16.09.21-Air-Quality-Progress-Report-2016-May-2016-Revised-LTP-and-LDP.pdf

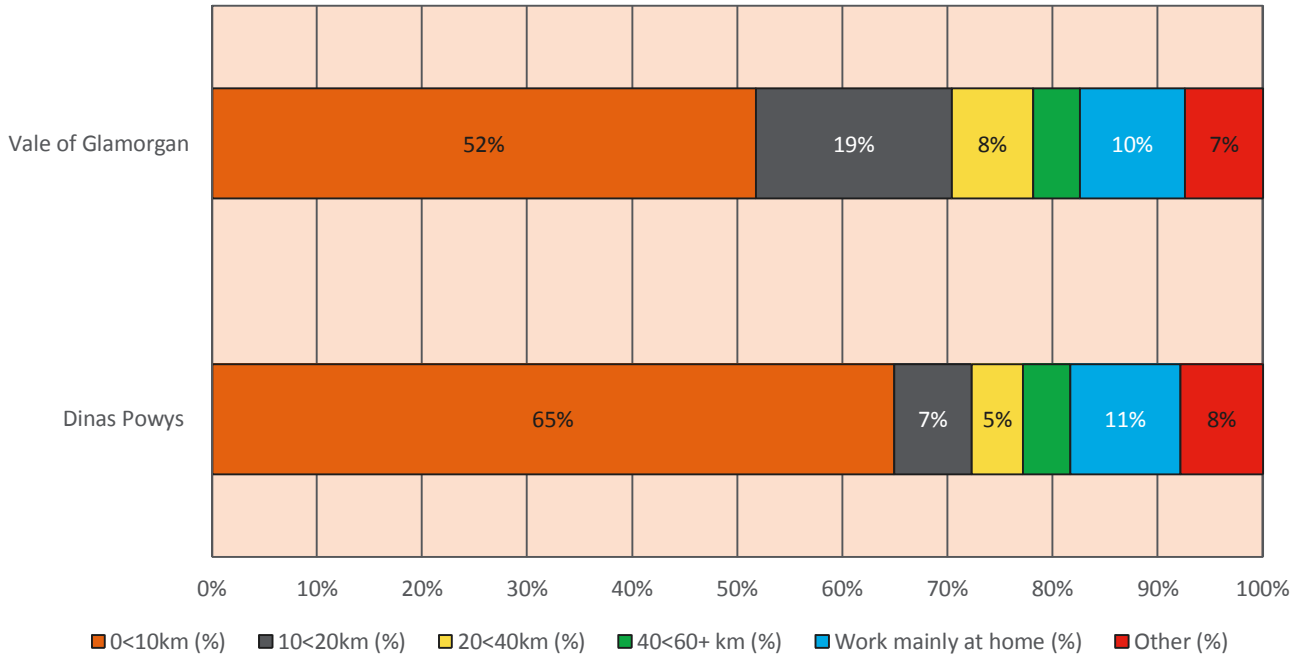
[8] Department for Environment Food & Rural Affairs - https://uk-air.defra.gov.uk/aqma/maps

## 3.3 Access to Employment

Dinas Powys retains several modes of sustainable transport providing viable opportunities for access to employment within the study area, however travel by car is the dominant mode. The following subsequently provides a summary of key characteristics for access to employment affecting the study area.

- 65% of workers travel less than 10km to work from Dinas Powys compared to 52% within the Vale of Glamorgan as a whole; most people from Dinas Powys commute to places of work within the local area (2011 Census Distance Travelled to Work) (Figure 4). This reflects the proximity of the major employment centres of Barry and Cardiff.
- The car (or van) is the dominant mode of travel to work across Dinas Powys, as with the Vale of Glamorgan and South East Wales as a whole. 79% of those from Dinas Powys drive to work (including passengers) compared with 76% of South East Wales as a whole (Table 7).
- Over three times the percentage of workers in Dinas Powys (10%) travel by train to work compared with the average for South East Wales as a whole (3%) (2011 Census Method of Journey to Work) (Table 7).
- Only 6% of workers in Dinas Powys travel to work on foot, nearly half the percentage of the Vale of Glamorgan (11%) (2011 Census Method of Journey to Work) (Table 7).
- 38% of workers within the Vale of Glamorgan also live in the Vale of Glamorgan (2011 Census Journey to Work Commuter Flows by Local Authority) (Table 8).
- More people commute out of Vale of Glamorgan compared to those commuting into Vale of Glamorgan. 26,715 people out-commute from the Vale of Glamorgan compared to 13,305 people who in-commute establishing a net flow of -13,410 Glamorgan (2011 Census Journey to Work Commuter flows by Local Authority) (Table 8).
- 44% of workers from Barry work in Cardiff and 31% of workers in Barry live in Cardiff (Table 9).

*Figure 4 Distance Travelled to Work (%)*[9]




[9] 2011 Census

*Table 7 Method of Journey to Work (2011 Census)*[10]

| Mode | Dinas Powys | The Vale of Glamorgan | South East Wales |
|---|---|---|---|
| Car or Van Driver | 73% | 72% | 69% |
| Car or Van Passenger | 6% | 6% | 7% |
| Taxi | 0% | 0% | 1% |
| Motorcycle, Scooter or Moped | 1% | 1% | 1% |
| Bus, Minibus or Coach | 2% | 3% | 6% |
| Train | 10% | 6% | 3% |
| Bicycle | 2% | 2% | 2% |
| On Foot | 6% | 9% | 11% |
| Other | 1% | 1% | 1% |

*Table 8 2011 Comparison of Census Journey to Work Commuter Flows by Local Authority*[11]

| Authority | Out Commuting | In Commuting | Net Flow | % Working in Own Area |
|---|---|---|---|---|
| Blaenau Gwent | 11,733 | 5,448 | -6,285 | 46% |
| Bridgend | 18,040 | 17,256 | -784 | 56% |
| Caerphilly | 34,845 | 15,993 | -18,852 | 41% |
| Cardiff | 32,845 | 73,126 | 40,281 | 65% |
| Merthyr Tydfil | 8,790 | 8,553 | -237 | 51% |
| Monmouthshire | 13,009 | 17,761 | -4,752 | 35% |
| Newport | 21,436 | 30,415 | 8,979 | 53% |
| RCT | 36,609 | 19,365 | -17,244 | 48% |
| Torfaen | 15,299 | 13,913 | -1,386 | 49% |
| **Vale of Glamorgan** | **26, 715** | **13,305** | **-13,410** | **38%** |

[10] 2011 Census

[11] AECOM Mid and North Wales – 2011 Journey to Work Analysis (2014)

*Table 9 2011 Census Location of Usual Residence and Place of Work*

| Currenly Residing | Place of Work | Number of People |
|---|---|---|
| **Vale of Glamorgan** | Cardiff | **17,773 (Total)** |
| Dinas Powys | | 1,466 (8%) |
| Barry | | 7,886 (44%) |
| Cardiff | **Vale of Glamorgan** | **5,576 (Total)** |
| | Dinas Powys | 197 (4%) |
| | Barry | 1,718 (31%) |

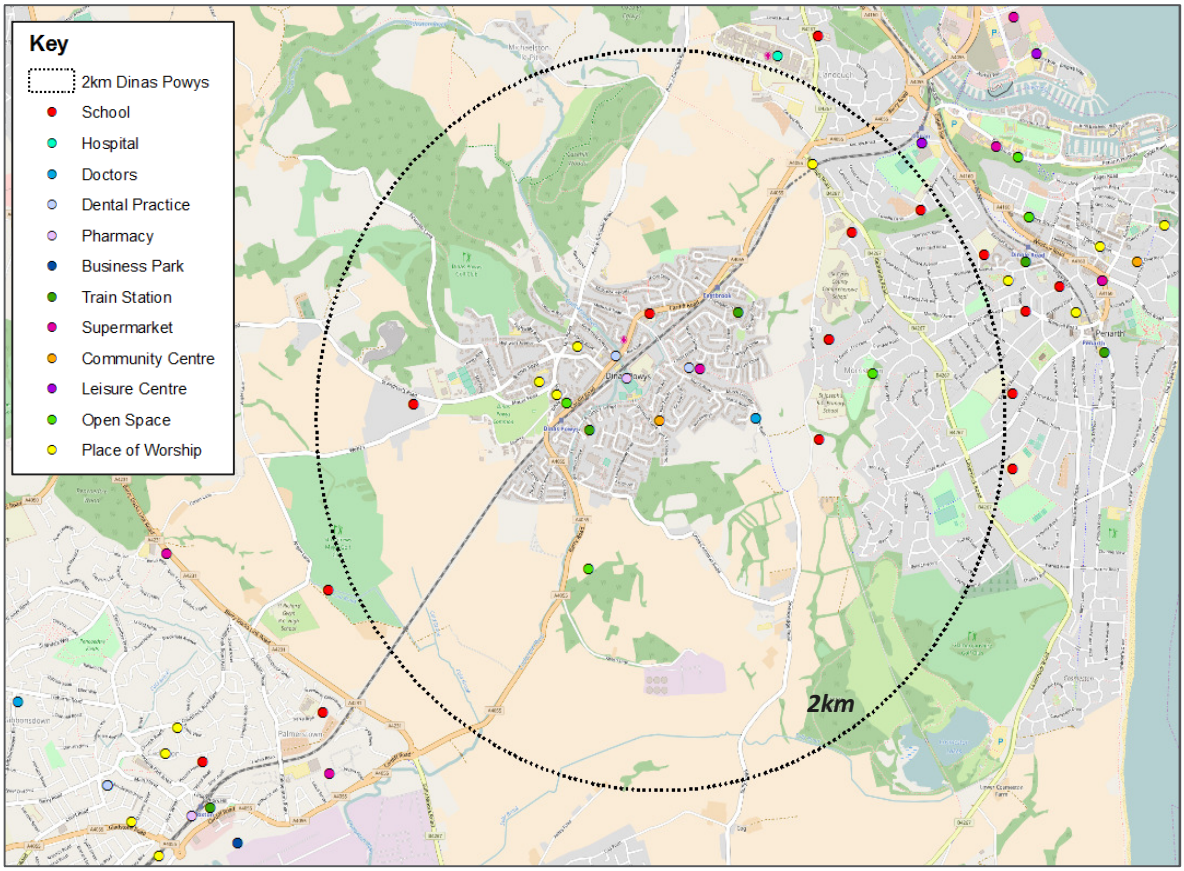
*Note: The places have been represented by SOA – Mid Layers*

## 3.4 Access to Services and Recreation

Access to services within the study area are generally good as demonstrated within Figure 5. There is a mixture of both facilities and services within 2km of Dinas Powys rail station (central point), including: education, healthcare, employment, retail, public transport and recreation.

- There are a significant number of facilities and services in close proximity of Dinas Powys, with potential for access by sustainable modes.
- Llandough University Hospital is located west off Penlan Road/ B4267 opposite Dochdwy Road, approximately 2km north of the centre of Dinas Powys. The hospital benefits from a number of bus stops close by and is also within 1km of Cogan Rail Station.
- There are several schools within the vicinity of the study area encompassing:
    - Dinas Powys Primary School is situated along Cardiff Road/ A4055. The school is located to the northeast of the Cardiff Road/ Millbrook Road/ Murch Road junction where signalised pedestrian crossings comprising tactile paving are present. The crossing serves also as an access route for pedestrians to the nearby bus stop, within approximately 50m of the school site.
    - St Andrew's Major Church in Wales Primary School is situated along St Andrew's Road, opposite Westra. A zebra crossing comprising tactile paving is located next to the school.
    - St Richard Gwyn Catholic High School is located on Argae Lane, northeast of Barry Docks Link Road/ Coldbrook Road East junction. A footway is provided along one side of the carriageway in a southerly direction towards Barry Docks Link Road, where the footway ends.
    - Stanwell High School is located on Salisbury Avenue, southwest Penarth. Footways are provided both sides of the adjacent carriageway as well as traffic calming measures comprising speed humps along the carriageway.
    - St. Cyres, Ysgol y Deri and Saint Joseph's RC Nursery and Primary schools are also all situated to the west of Penarth.
- There are limited evening and weekend bus services leading to potential difficulties in accessing essential services and leisure opportunities thus encouraging greater reliance on the private car.

*Figure 5 Access to Local Services*




## 3.5 Walking and Cycling

The walking and cycling network in Dinas Powys is potentially unappealing to walkers and cyclists. Nonetheless plans for cycle route extensions are likely to considerably enhance the area and allow for a more appealing cycling environment, and the Vale of Glamorgan Council is working to promote and improve opportunities for active travel within the local authority area in line the Active Travel (Wales) Act (2013).[12]

### Existing Conditions

- Footways are provided on at least one side of the A4055/ Cardiff Road, from the A4055/ A4160 roundabout heading southwest towards Barry. The footways are considered to be in poor condition along the much of the study route. As the A4055 leaves Dinas Powys, there are no footways provided. There are eight signalised pedestrian crossings are located along the A4055 route:
    - Cogan Junction – full refuge
    - Merrie Harrier (only on north arm of A4055 – north to Cogan) – no refuge
    - South of Redlands Road/ A4055 junction – full refuge
    - Opposite Eastbrook rail station – no refuge
    - Opposite Dinas Powys Primary School – narrow waiting margin in middle
    - North of Elm Road/ A4055 junction – no refuge
    - Dinas Powys rail station – narrow waiting margin in middle

[12] http://www.valeofglamorgan.gov.uk/en/our_council/consultation/Active-Travel.aspx

  - South of Heol Y Frenhines/ A4055 junction – narrow waiting margin in middle

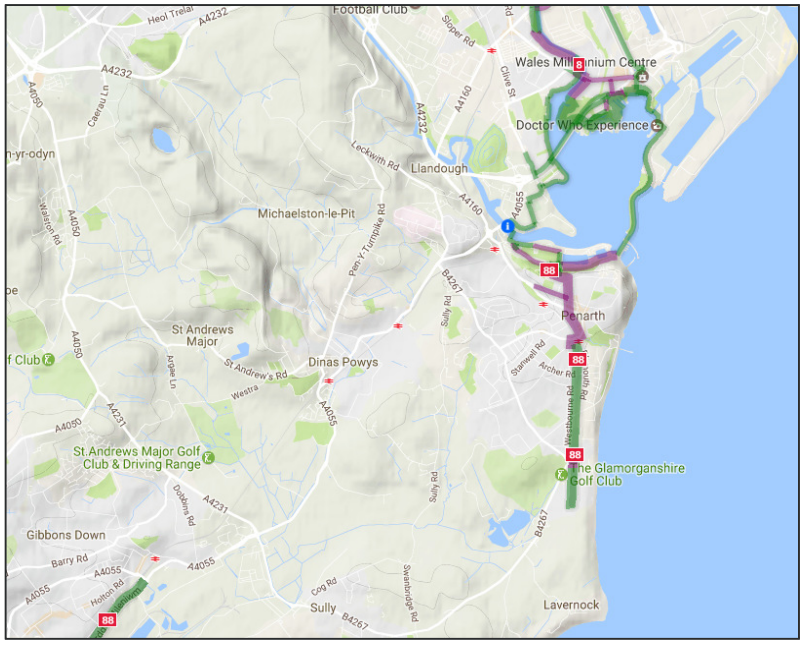
- Cycling signs are visible throughout the study area, with priority for cyclists at key junctions: Cogan junction, Merrie Harrier, Redlands Road/ A4055; and A4055/ Murch Road/ Millbrook Road.
- Highway on-road cycle markings are provided along the A4055. There is currently poor connectivity by cycling between Dinas Powys and Penarth, Llandough and Barry;
- The National Cycle Network (NCN) Route 88 runs to the east of the study corridor within approximately 3km. NCN Route 88 runs from Newport to Margam Country Park along a mostly coastal route.

## Proposals

- As set out in the policy section, there are a number of proposed improvements. The NCN Route 88 has plans to be extended including between Dinas Powys and Penarth (Figure 6).
- The Vale of Glamorgan Deposit LDP has set objectives to promote Penarth as a *'sustainable transport town'* by encouraging new and enhanced walking and cycling links.
- £30k funding has been granted to carry out feasibility for a new pedestrian and cycling link from the McDonalds roundabout on Cardiff Road Barry to Dinas Powys (Vale of Glamorgan LDP).
- £25k has been granted to allow the Council to negotiate with land owners of The Ash Path to enable the provision of a shared footway/ cycleway on public rights of way 25 and 28c to enable a link between Dinas Powys and Sully Road (Vale of Glamorgan LDP).
- The Cross Common in Dinas Powys has been proposed to open (Vale of Glamorgan LDP).
- Footpath improvements linking Dinas Powys with Michaelston le Pit has been proposed (Vale of Glamorgan LDP).
- Policy SP7 – Transportation within the Vale of Glamorgan Deposit LDP has identified that cycle routes at Barry Waterfront to Dinas Powys should be delivered.

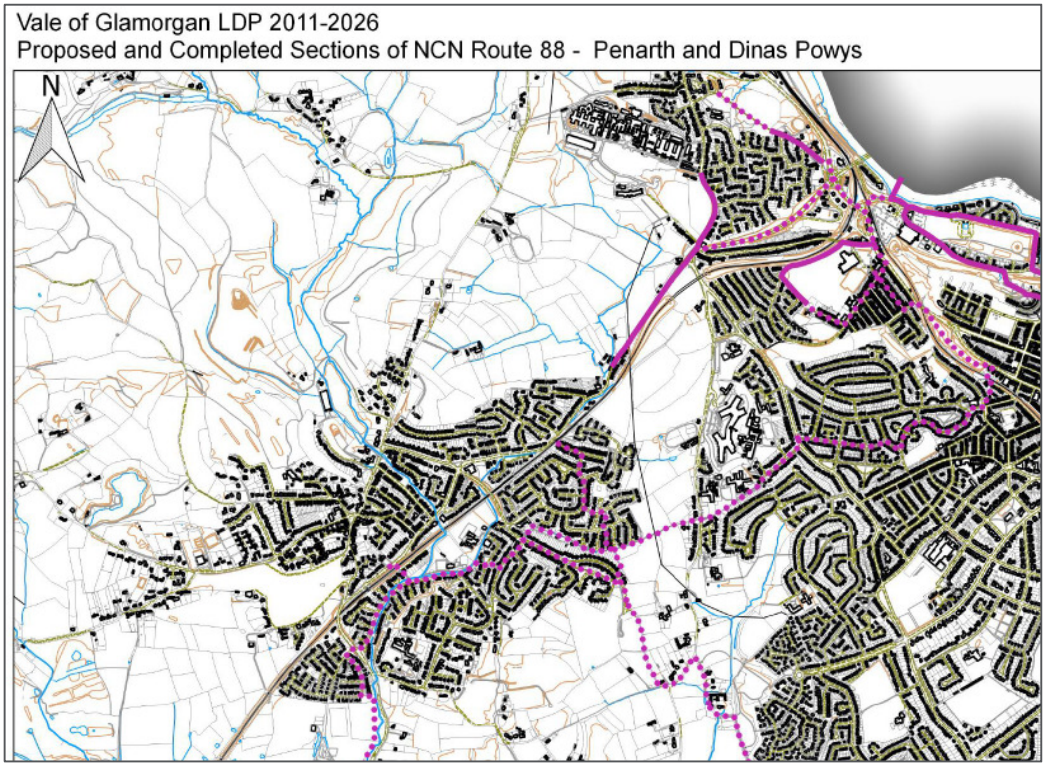
The strategic route of Barry Waterfront to Dinas Powys is considered necessary for development of the key national cycle network (Vale of Glamorgan LDP).

*Figure 6 Sustrans Map of Cycle Routes in Local Area*[13]




[13] Sustrans: http://www.sustrans.org.uk/ncn/map

*Figure 7 Proposed Extension of National Cycle Network Route 88*[14]




## 3.6 Rail

Rail services in the study area are considered to have good potential. Although rail use for work is already high in comparison to South East Wales as a whole, the facilities and services to and from the stations have the potential to be enhanced for the benefit of existing and future users of the network.

- There are two rail stations within the study area namely Dinas Powys and Eastbrook, located on the Vale of Glamorgan Rail Line.
- Dinas Powys Station[15] does not have a car park or cycle parking provision. Users of the rail station often park on street nearby e.g. on Station Road. Whilst there is step-free access via platform entrances either side of the station, there is no strep-free access between platforms with a subway with steps connecting the two platforms. There is no external lighting to the platform entrances. Although there is no dedicated ticket office, accessible ticket machines are available.
- Eastbrook Station[16] does have a free car park with 31 spaces and two accessible spaces available, but no cycle parking provision. Again, there is no dedicated ticket office although an accessible ticket machine is provided. There is no step-free access between platforms with access provided via a stepped footbridge. Step free access is available to each of the platforms.
- There are limited existing facilities at stations for interchange for cycling.
- The frequency and journey time to a number of key destinations from Dinas Powys and Eastbrook stations is presented in Table 10. A maximum of four train services per hour stop at the stations in both

[14] Vale of Glamorgan Local Development Plan 2011-2026

[15] National Rail Enquiries

[16] National Rail Enquiries

directions linking to a number local and regional destinations throughout South East Wales including Cardiff and Bridgend (Monday to Fridays; reduced service on Sundays).

- Rail passenger demand in the last ten years on the valley lines has been growing at circa 6% per annum with some local routes experiencing 80% growth between 2000 and 2009, significantly higher than the average for the UK[17].

  At Dinas Powys rail station (2014/15 – 2015/16), rail patronage decreases have been observed from 104,534 to 103,106 passengers in 2015/16 (1.4% decrease), and at Eastbrook rail station (2014/15 – 2015/16), rail patronage increases have been observed from 170,534 to 176,506 passengers in 2015/16 representing a 3.5% increase (Figure 10).

- The Vale of Glamorgan Line was reopened between Barry and Bridgend in 2005 including new stations at Rhoose and Llantwit Major with park and ride facilities[18]. A dedicated shuttle bus also operates between Cardiff Airport and Rhoose Station.

- Surveys have illustrated that standing above train capacity may occur on AM peak trains between Cadoxton and Cardiff. Afternoon standing above capacity appears less severe however between Grangetown and Dinas Powys on the Vale of Glamorgan Line, standing is at levels above standard train capacity.[19]

- Between 2007 and 2018, Network Rail is installing new signalling technology and improving stations and infrastructure to create more capacity and faster, more frequent rail services. Improvements include:

  - A new platform at Barry has been built to accommodate a more frequent service;
  - A new southern entrance and a new platform to be able to serve more trains at Cardiff Central;
  - Two new platforms to provide extra capacity and a new station entrance at Cardiff Queen Street[20]; and
  - The Cardiff Area Signalling Renewal Stage 3 involves Penarth and Barry branches to Cardiff West Junction (completed in June 2014).[21]

- There are plans for the electrification of the Vale of Glamorgan line including through Dinas Powys and Eastbrook.[22]

## Sewta Rail Strategy 2013 (Jacobs)

The Sewta Rail Strategy is a report prepared by Jacobs which sets out the investment which the combined local authorities in South East Wales believe is needed to ensure a robust and efficient rail network over the next 20 years. The strategy is planned to accommodate passengers in comfort and encourage growth of both rail passengers and freight in an environmentally sustainable form.

The Sewta vision for improving the rail network is shared by the Welsh Government and seeks to provide a more attractive transport option with a minimum frequency of half hourly services made up of higher capacity electric trains. The Cardiff Area Signalling Renewal project offers the scope to secure additional capacity at the core of the Valley Lines network, through an enhancement option which will require continued Welsh Government funding support.

[17] Sewta Rail Strategy 2013 (Jacobs)

[18] Vale of Glamorgan Deposit Local Development Plan 2011-2026 (2013)

[19] Vale of Glamorgan Local Development Plan 2011-2026: Sustainable Transport Assessment

[20] Dates from: http://www.railway-technology.com/projects/cardiff-area-signalling-renewal-casr-project/

[21] Network Rail - http://www.networkrail.co.uk/wp-content/uploads/2016/11/South-Wales-investment-map.pdf

[22] Network Rail - http://www.networkrail.co.uk/wp-content/uploads/2016/11/South-Wales-investment-map.pdf

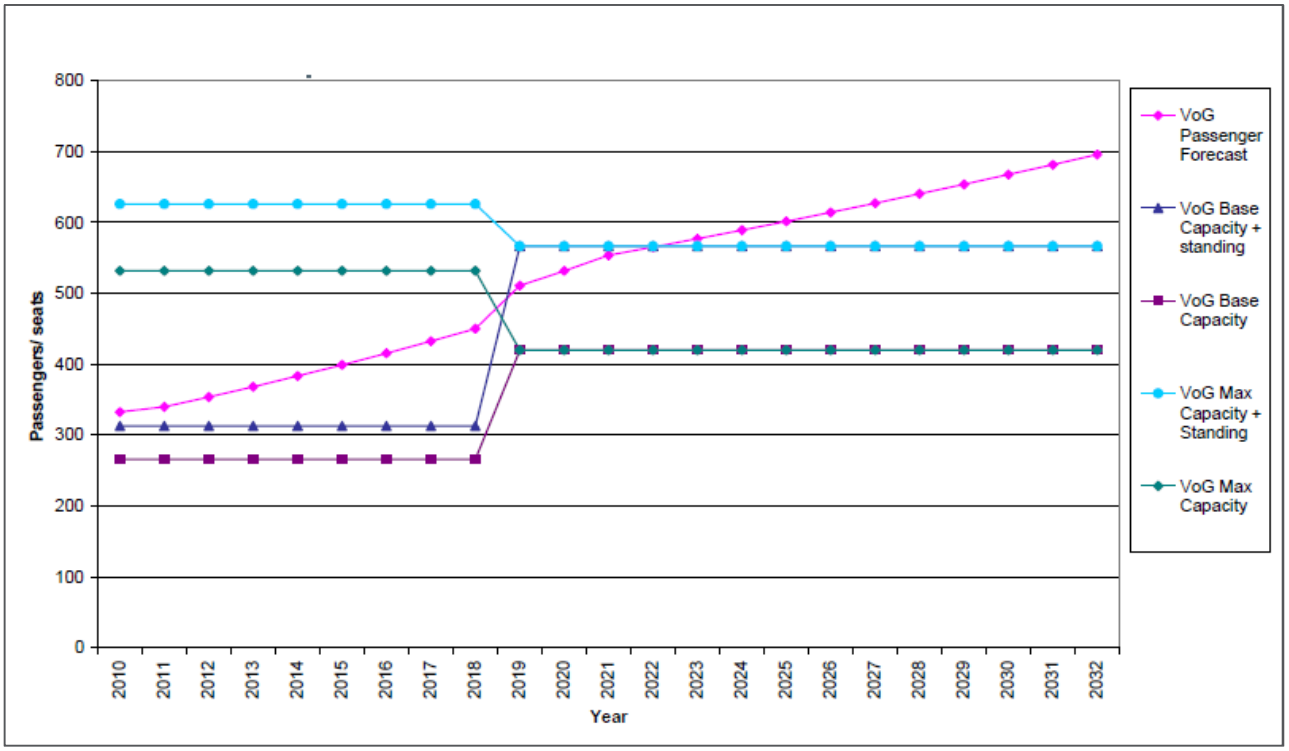
Rail demand on the Valley Lines and elsewhere in South East Wales has been growing at a rate significantly above GDP. In order to avoid overcrowding at this high growth rate, significant short term investment in additional rolling stock is needed as well as medium term rolling stock renewal through Valley Lines electrification. The rail strategy is based on provisions such as providing longer trains to accommodate passenger growth and improving the frequency of existing passenger services.

The strategy identifies various levels of investment, relevant to this study including:

- Additional rolling stock required to strengthen peak train to address passenger growth and to avoid overcrowding;
- Station enhancements including improved station facilities, information, security and access; and
- Frequency enhancements on existing lines, including improving the levels of service on selected routes to meet passengers' minimum service level expectations and encourage increased transfer of car trips to rail. Half hourly services along the Vale of Glamorgan Line and additional peak services to reduce overcrowding between Barry and Cardiff.

The study has found that demand exceeds peak capacity on the Vale of Glamorgan Line (Figure 8). Overcrowding is expected to curtail demand in the short term. The former Welsh Government National Transport Plan (2010-2015) proposed to increase the service frequency to half hourly. Recommendations found that train lengthening or frequency enhancement is implemented for as soon as possible.

*Figure 8 Demand/ Capacity AM Peak Vale of Glamorgan Line*




## Cardiff Capital Region Metro Study (2013)

The Metro Study sets out a strategic regional plan for developing the Metro, which *is:*

*'a turn up and go integrated transport network that will connect over 70% of the population of the Cardiff City Region, developed in a way that enables and/or enhances developments at strategic sites, maximises economic benefits & facilitates regeneration'.*

The study identifies a number of relevant existing transport problems and key trends:

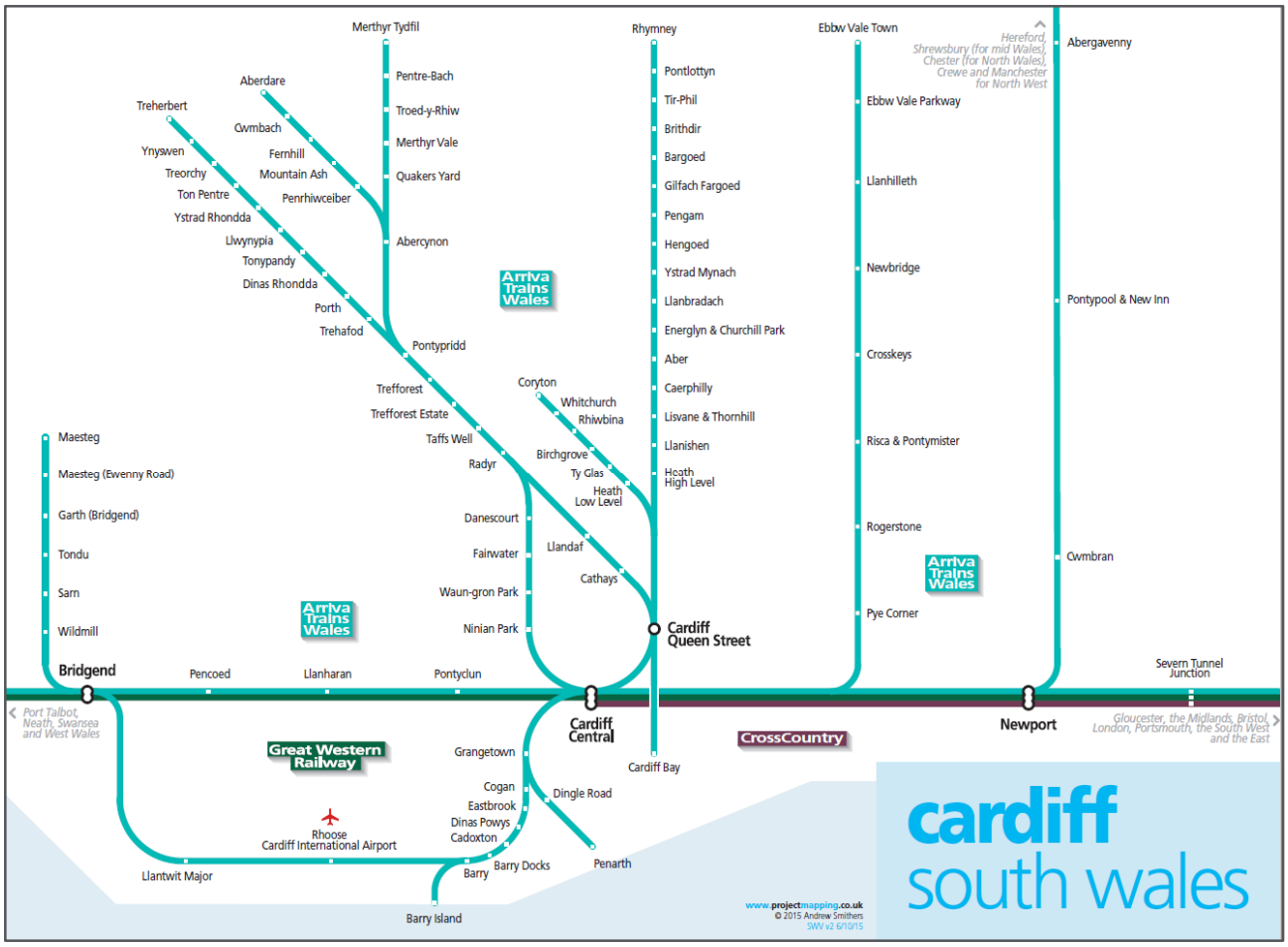
- Limited integration between rail and bus services;

- Problems many people in the region encounter in accessing work, education and healthcare because of lack of available, affordable transport;
- Limited public transport access to some of the region's major hospitals, schools and other public services; and
- The Vale of Glamorgan rail line generally has poor frequencies (with one train an hour).

The Metro's extent includes routes southwest of Cardiff through Dinas Powys (towards Barry before travelling northwest towards Maesteg.

Bus/rail integration improvements at Barry Docks have been identified as an early Metro project that can be delivered incrementally from now until 2020. Improvements to public transport at Cardiff Airport are also highlighted.

*Figure 9 Map of South Wales Rail Stations*[23]

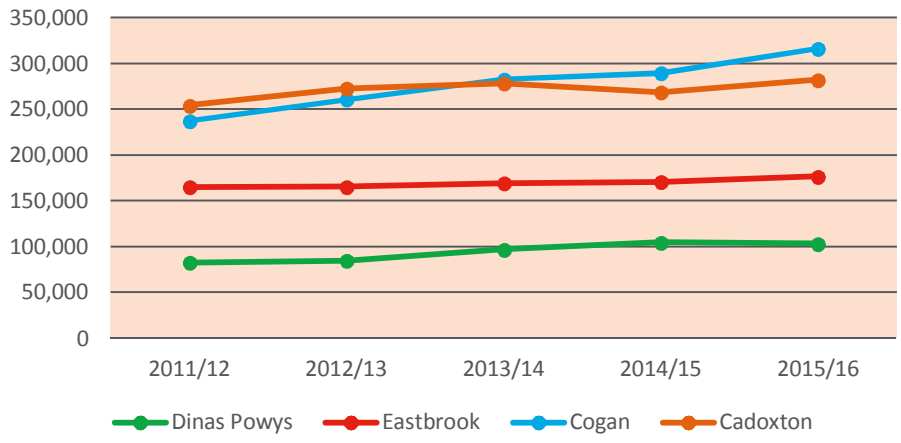



[23] National Rail Enquiries

*Table 10 Rail Frequency (Monday – Saturday)*[24]

| Rail Station | To/ Destination | Journey Time | Frequency |
|---|---|---|---|
| **Dinas Powys** | Cardiff Central | 13 minutes | 4 per hour |
| | Barry | 11 minutes | 4 per hour |
| | Pontypridd | 45 minutes | 4 per hour |
| | Merthyr Tydfil | 1 hour 21 minutes | 2 per hour |
| | Aberdare | 1 hour 21 minutes | 2 per hour |
| | Rhoose (Cardiff International Airport) | 18 minutes | 1 per hour |
| | Bridgend | 46 minutes | 1 per hour |
| **Eastbrook** | Cardiff Central | 11 minutes | 4 per hour |
| | Barry | 13 minutes | 4 per hour |
| | Pontypridd | 43 minutes | 4 per hour |
| | Merthyr Tydfil | 1 hour 18 minutes | 2 per hour |
| | Aberdare | 1 hour 18 minutes | 2 per hour |
| | Rhoose (Cardiff International Airport) | 21 minutes | 1 per hour |
| | Bridgend | 48 minutes | 1 per hour |

*Figure 10 Rail Station Patronage (2011/12 to 2015/16*[25]




[24] National Rail

[25] Office of Road and Rail – Station usage 2015-16 data

## 3.7 Bus

There are a number of bus stops within Dinas Powys, with varying levels of service frequency. Within the study area, there are various bus services serving the area as illustrated in Table 11. The frequency of service varies with Sunday services being very sparse. There are approximately four buses travelling into Cardiff per hour through Dinas Powys. Two further buses travel into Cardiff per hour from the Cogan junction. These bus routes are described below with regards to the study area.

- Bus service 89 travels from Nat West Bank, The Square Dinas Powys to Cardiff including Cardiff Bay, Grangetown, Butetown and Atlantic Wharf.
- Bus service 92 travels through our study area from the B4267 Redlands Road/ A4055 Cardiff Road junction in a north-easterly direction towards Cogan junction. This route does not travel through Dinas Powys. The bus stop is located approximately 90m north of Cogan junction.
- Bus service 93 travels through Dinas Powys to Cardiff including Grangetown and Riverside.
- Bus service 95 travels through Dinas Powys to Cardiff including Grangetown, Riverside, Cardiff Bus Station o/s Wyndham Arcade and Heath (including Heath Hospital).
- Bus Services 93S and S77 are school/college services only.
- Bus Service 304 travels through Dinas Powys to Cardiff including Cardiff Bay, Grangetown, Butetown and Atlantic Wharf.

*Table 11 Local Bus Services*[26]

| Bus No. | Route | Bus Stop | Monday – Friday | Saturday | Sunday |
|---|---|---|---|---|---|
| 89A | Nat West Bank – Cardiff | Nat West Bank, The Square, Dinas Powys | 2 hours | 2 hours | - |
| 89B (note does not serve Dinas Powys) | The Institute – Cardiff | Llandough Hospital | 2 hours | 2 hours | - |
| 91 (note does not serve Dinas Powys) | Cosmeston Lakes – Cardiff | Terranova Way, Penarth | - | 1 hour | 1 hour |
| 92 (note does not serve Dinas Powys) | Castle Avenue – Cardiff | Barons Court, Penarth Road, Cogan Pill | 30 mins | - | - |
| 93 | Morrisons – Cardiff | School, Cardiff Road, Dinas Powys | Hourly | Hourly | - |
| 94 (note does not serve Dinas Powys) | Morrisons – Cardiff | Barons Court, Penarth Road, Cogan Pill | 30 mins | 30 mins | 1 hour |
| 95 | Winston Square – Heath Park Way | School, Cardiff Road, Dinas Powys | 30 mins | 30 mins | 2 hours |

[26] Traveline Cymru

| Bus No. | Route | Bus Stop | Monday – Friday | Saturday | Sunday |
|---|---|---|---|---|---|
| 95A (note does not serve Dinas Powys) | Cardiff - Cardiff | Merrie Harrier, Penlan Road, Cogan Pill | 1 hour | 1 hour | - |
| 95B (note does not serve Dinas Powys) | Windsor Arcade – Cardiff | Merrie Harrier, Penlan Road, Cogan Pill | 1 hour | 1 hour | - |
| 303/304 | Cardiff – Barry | Dinas Powys Primary School, Cardiff Road, Eastbrook | Hourly | Hourly | 2 Hours |

- There are currently 700 bus stops located throughout the Vale of Glamorgan area, all ranging with various standards. Figure 11 shows the location of bus stops within and near to the study area. Bus stops are equipped with timetables however there is no real-time passenger information available in Dinas Powys. Along the A4055 from Biglis Roundabout to Cogan junction, there are 16 bus stops; eight of which comprise a pole with timetable, seven of which comprise shelters with seating and one with no facilities.
- The quality of the bus stops is inconsistent with many retaining poor quality facilities with limited facilities. This is noted in Capita's Dinas Powys to Cardiff Corridor study (2015) – 'there are a range of different bus stop provisions along the corridors, which for bus passengers presents a disjointed and inconsistent user experience'. This inconsistency and poor maintenance and upkeep of bus stops was confirmed following a site visit in March 2017.
- Signalised crossings comprising tactile paving are located near to the bus stops including at Dinas Powys rail station; north and south of Elm Grove/ Cardiff Road junction; Dinas Powys Primary School; south of Cardiff Road / Redlands Road junction and Cogan junction.
- Footways are generally well lit within the area allowing for good lighting at bus stops with the exception of Bryn-y-Don bus stop north of Cardiff Road/ Cross Common Road junction.
- It is a regional and local aspiration to standardise bus stops to ensure well maintained infrastructure in order to deliver a fully accessible bus service[27].
- The existing bus network varies in provision in the region and increased pressure on budgets mean that supported services are increasingly under pressure.
- Increased pressure on budgets requires an increase in fare revenue to maintain service stability and network coverage. Currently around 20% of the total local bus service mileage in the Vale of Glamorgan is supported financially by the Council, the remainder of which being operated on a wholly commercial basis.[28]
- From a budget of £25m for Wales, the Vale of Glamorgan Council's allocation is £340,444 to help support services, £45,119 of which must be ring-fenced to support Community Transport provision, leaving a balance of £295,325 for bus subsidy.

  Within the Transport Act 1985, Councils in Wales have powers to secure public transport services by entering into service subsidy agreements. They may only do so where there is, in their opinion, a public

[27] Vale of Glamorgan Local Development Plan 2011-2026 Sustainable Transport Assessment

[28] Vale of Glamorgan Local Development Plan 2011-2026 Sustainable Transport Assessment

transport requirement not being satisfied by the free market and which will not be met unless they take action of offering subsidy for the service.[29]

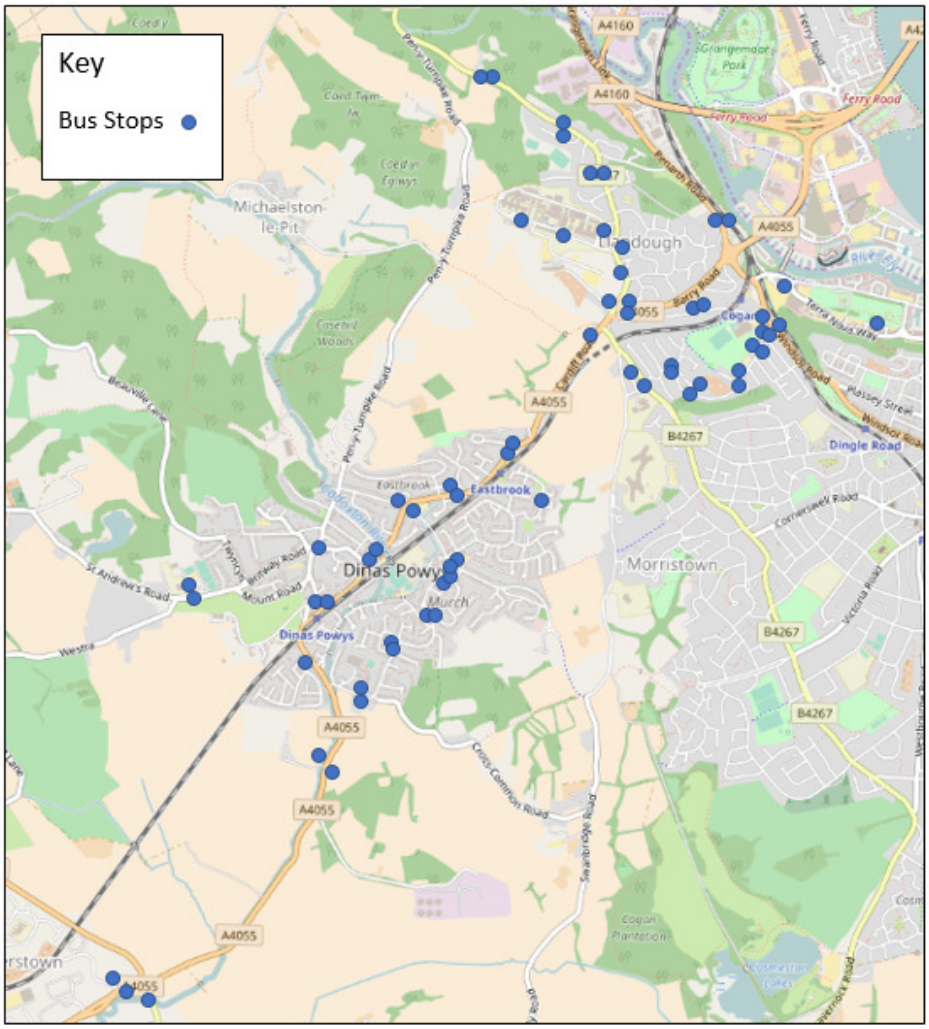
## Dinas Powys to Cardiff Corridor Bus Priority Measures (May 2015)

In February 2015, Capita was commissioned by the Vale of Glamorgan Council to undertake a study to consider feasible bus priority measures along designated corridors between Dinas Powys and the Cardiff County boundary.

Key findings of the study included that the majority of corridors were too constrained to include bus lanes and that highway networks are unlikely to accommodate the 8% demand increase forecast in the next six years. This level of demand increase will be unachievable due to wider network constraints and "peak spreading" is a realistic prospect. If traffic growth occurs at the rate forecasted and no network improvements are undertaken, an 8% traffic growth would result in a 96% growth in delay in the study area.

The study concluded that a more consistent level of bus provision, in line with the Vale of Glamorgan 'Gold Standard', is needed to present a better visual presence and reinforce the viability of public transport as a pleasant and convenient means of travel. Improvements at a few critical junctions would also allow for faster and more reliable public transport movements; reducing delays. Improvements will be focused at Merrie Harrier Junction and Cogan Hill junction.

*Figure 11 Local Bus Stops*




[29] Vale of Glamorgan Local Development Plan 2011-2026 Sustainable Transport Assessment

- There are a number of community transport operations within the Vale of Glamorgan including these running in Dinas Powys:
  - Greenlinks
  - Voluntary Emergency Services Transport (VEST)
  - East Vale Community Transport (EVCT)
  - Dinas Powys Voluntary Concern (DPVC)
  - The Intersensory Club
  - Non-Emergency Patient Transport
- Bus transport modal share for journeys to work in Dinas Powys is 1% compared to 2% in the Vale of Glamorgan and 3% in South East Wales as a whole.[30]
- In February 2015, Capita were commissioned by Vale of Glamorgan Council to undertake a study to consider feasible bus priority measures along designated corridors between Dinas Powys[31]. The report states that from Dinas Powys to Cardiff Corridor, there are a range of different bus stop provisions which for bus passengers presents a disjointed and inconsistent user experience.[32]

## 3.8 Highway Network

The highway network forms the backbone of the transport network within the study area. Despite rail infrastructure in place, it remains the case that the road network is the key choice of travel from Barry to Dinas Powys to Cardiff or Penarth. The road network facilitates movement by the private car, as well as providing the infrastructure for bus transport and walking and cycling links. It nonetheless stands that despite the importance of the highway network, it is increasingly under pressure from the existing (and future) volume of traffic.

The geographical location of Dinas Powys has subsequently established a highway network which experiences considerable volumes of traffic, particularly at critical junctions along the strategic route during the AM and PM peak periods.

The key highway corridors and junctions which comprise the Dinas Powys highway network (the study area) are illustrated in Figure 13. This includes corridors from Biglis Roundabout Barry through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth.

The RTP identifies that an increasing dependence on the car has led to high levels of traffic congestion and an inefficient transport system overall, with traffic congestion costing the local economy £600m a year. Many of the regions roads are said to be close to capacity during the day and exceed capacity during peak hours. Forecast costs of congestion will soon reach £1bn a year in South East Wales alone, and continued economic investment will suffer as a result.

The following section subsequently assesses the key elements of the existing highway network.

- Table 6 has identified that up to 79% of those travelling to work use a car with Table 12 and Figure 13 detailing 2-way Annual Average Daily Traffic (AADT) flows through Dinas Powys at specific locations.
- The Highway Impact Assessment (2013) identifies the strategic highway network, key junction and allocated employment and residential development allocations over the local LDP period. These are shown in Figure 13.

  The assessed junctions relevant to this study are:

[30] 2011 Census

[31] Capita Dinas Powys to Cardiff Corridor Bus Priority Measures (2015)

[32] Capita Dinas Powys to Cardiff Corridor Bus Priority Measures (2015)

1. The Biglis/ McDonald's roundabout (A4055/ A4231)
2. Murch Road / Cardiff Road, Dinas Powys crossroads
3. Merrie Harrier junction, Llandough
4. Barons Court junction, Penarth
5. Pen-y-Turnpike Road/ Leckwith Road

- As indicated in Table 2, the Capita Symonds Highway Impact Assessment LDP Background Paper (2013) identified that four junctions are subsequently forecasted to be over capacity in the 2026 future year, namely:
  - Cardiff Road/ Murch Road/ Millbrook Road;
  - Merrie Harrier; Barons Court;
  - Leckwith Road/ Pen-y-Turnpike Road; and
  - Cardiff Road/ Murch Road/ Millbrook Road (also over capacity in 2012).

The Sewta RTP identified that an increasing dependence on the car has led to high levels of traffic congestion and an inefficient transport system overall, with traffic congestion costing the local economy £600m a year.

Many of the regions roads are said to be close to capacity during the day and exceed capacity during peak hours. Forecast costs of congestion will soon reach £1bn a year in South East Wales alone, and continued economic investment will suffer as a result.

*Figure 12 Map Showing Key Junctions and Strategic Route within Study Area (LDP)*

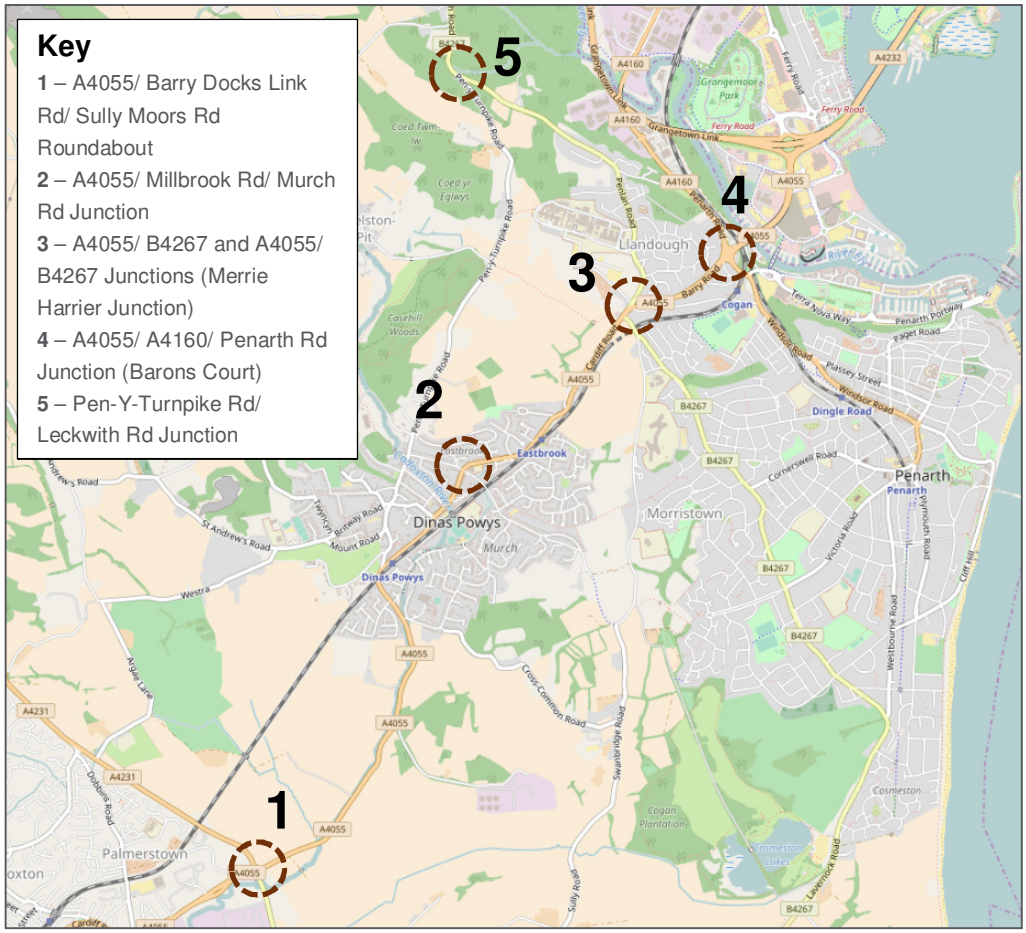


*Figure 13 AADT flows through Dinas Powys*

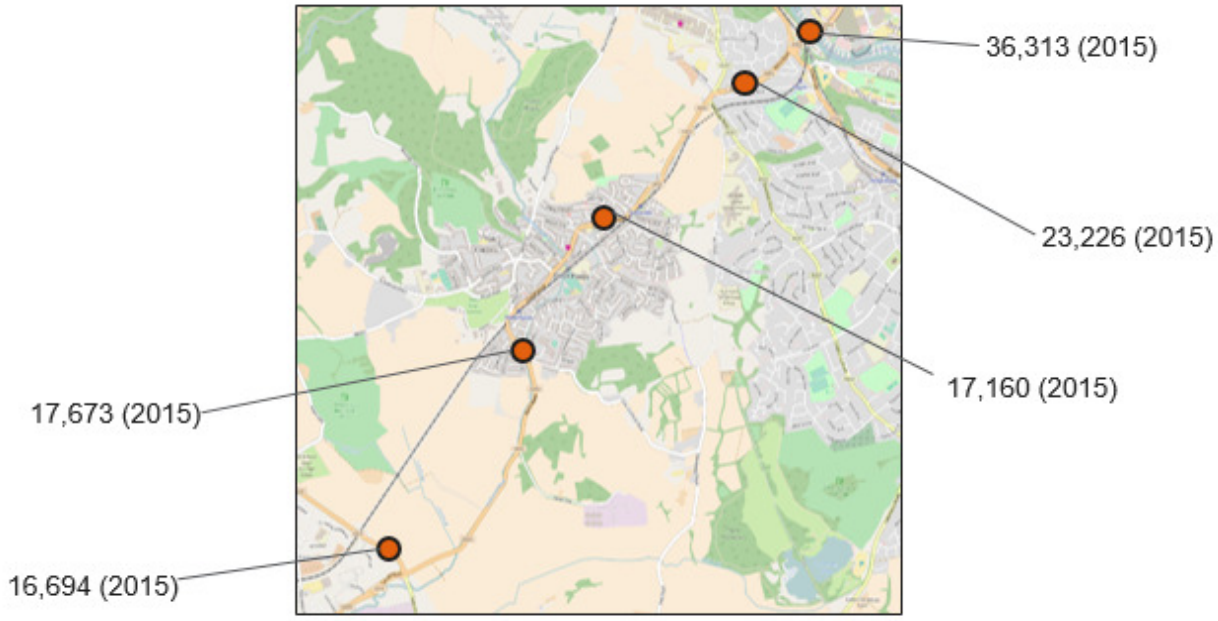
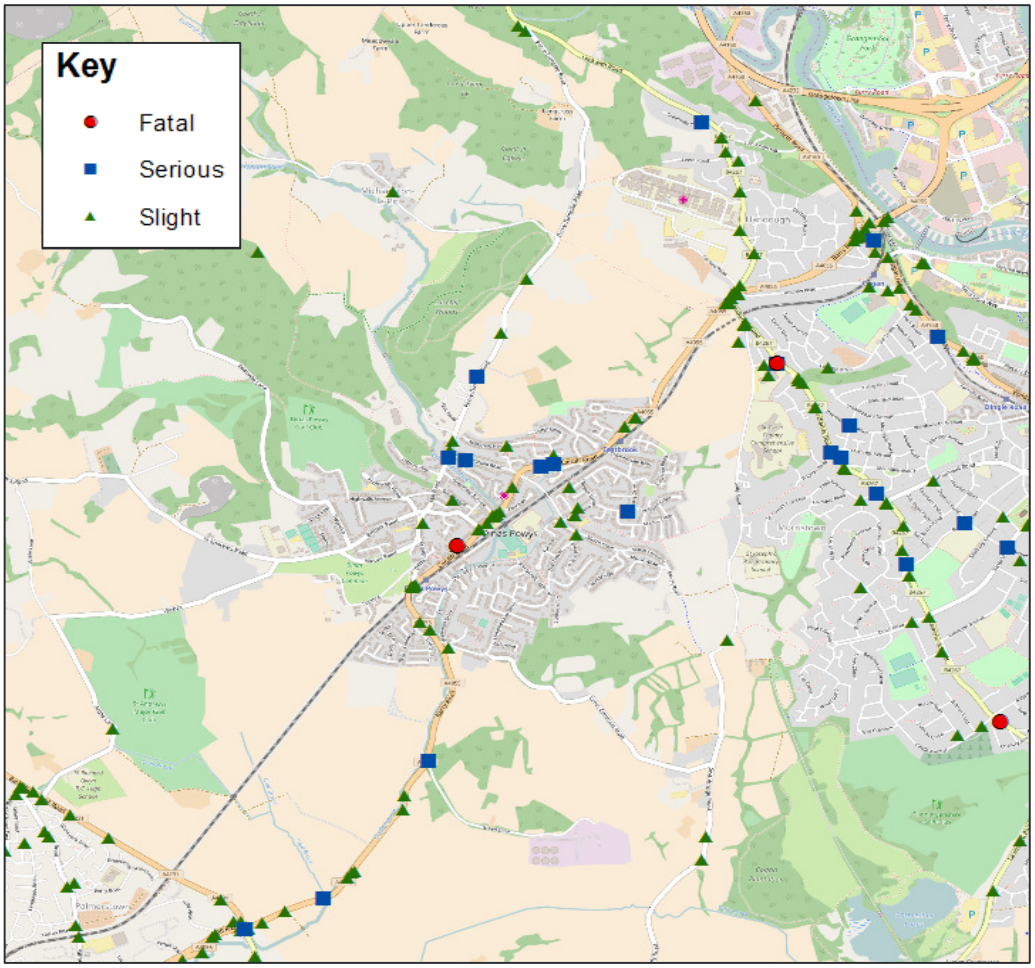



*Table 12 AADT flows through Dinas Powys*

| Road Link | Count Point ID | Total Traffic Flows (2015) | HGVs |
|---|---|---|---|
| A4055 | 73233 | 36,313 | 1.73% |
| A4055 | 10630 | 17,673 | 2.04% |
| A4055 | 78434 | 17,160 | 1.52% |
| A4231 | 99962 | 16,694 | 4.36% |
| A4955 | 50578 | 23,226 | 1.96% |

- Figure 14 shows available accident data by severity within the vicinity of the study area between 2011 and 2015. The map shows a cluster of accidents at the A4055/ Barry Docks Link Rd/ Sully Moors Rd Roundabout with ten accidents nine of which were slight and one of which was serious. Another cluster can be found at Station Road/ Cardiff Road with six accidents which were of slight severity.
- At the Merrie Harrier junctions with Redlands Road and the B4267, there are a total of 13 accidents, slight in severity. Nine accidents slight in severity have also occurred at the A4055/ A4160/ Penarth Rd Junction (Barons Court) over the survey period. 34 accidents have occurred along Cardiff Road; 31 slight in severity, two of which were series and one fatal.

*Figure 14 Accidents by Severity within Study Area (2011-15)*



# 4 Strategic Case

## 4.1 Overview

This section of the Impacts Assessment Report sets out the evidence, data and methods that have been used to support the Strategic Case, which is set out in the main WelTAG Stage One report.

## 4.2 Identification of Problems, Opportunities and Constraints

### Overview

The problems (or issues), constraints and opportunities of the study area are the drivers of the proposals for a transport intervention. This section identifies the problems (existing and future), constraints of the study area, as well as the potential opportunities within the transportation and land-use system.

The identification of problems, constraints and opportunities has been done through analysing local data, reference to previous feasibility reports and policy, and the feedback from the stakeholder and public consultation. Section 3 of this Impacts Assessment Report sets out the context and evidence behind the problems, opportunities and constraints presented below.

A list of problems and opportunities established from the detailed review of policy, study area and background studies was presented to stakeholders and the general public as a starting point for discussion.

### Identification of Problems

The draft problems as presented at the stakeholder workshop and public consultation were as follows:

- Proximity to major employment and services means large volume of transport movements to and from Cardiff, from Dinas Powys and Barry and Vale.
- Larger percentage of people driving to work than SE Wales (although also more by train).
- Frequent rail services with increasing patronage but potential over-crowding issues.
- Limited facilities at stations for interchange (cycle and car parking).
- Relatively frequent bus services (approximately six bus services travelling into Cardiff per hour, Monday-Friday) but potential for overcrowding.
- Limited bus priority measures mean buses are subject to congestion.
- Some of the bus stops are of poor quality with limited facilities.
- Poor connectivity by walking and cycling between Dinas Powys and Penarth, Llandough and Barry.
- High AADT flows through Dinas Powys – similar flows from the south and through Dinas Powys indicate significant level of through trips.
- Four junctions forecast to be over capacity in the 2026 future year.
- Issues of accidents within Dinas Powys.
- A4055 presents a potential barrier to movements within the community and local access to schools and services.
- Limited and poor walking infrastructure on some sections of the A4055.

Following a review of the baseline context data and feedback from the workshop and public consultation the problems have been identified as illustrated in Table 13.

*Table 13 WelTAG Stage One Identified Problems*

| Reference | Problem |
|---|---|
| P01 | Poor quality bus stops with limited facilities |
| P02 | Poor interchange facilities at railway stations (including poor parking opportunities) |
| P03 | Overcrowding on peak rail services |
| P04 | Overcrowding on peak bus services |
| P05 | Poor infrastructure and local connectivity by walking and cycling |
| P06 | A4055 creating severance within the community (e.g. access to schools and other facilities/ services) |
| P07 | High local traffic flows leading to congestion, capacity issues at junctions, environmental impacts (air quality and noise pollution) and unreliable journey times |
| P08 | High use of the car for local and regional trips (e.g. journeys to work) |
| P09 | Occurrence of accidents along key strategic routes, especially the A4055 |
| P10 | Residential land use development within Vale of Glamorgan could compound existing traffic issues and increase pressure on public transport services |

## Identification of Opportunities

The opportunities of the study area have been identified to assist in ensuring that the identified objectives and options are realistic and take into account the nature of the study area. The draft opportunities as presented at the stakeholder workshop and public consultation are as follows:

- Proximity to major employment and services means large volume of transport movements to and from Cardiff, from Dinas Powys and Barry and Vale.
- Significant facilities and services in close proximity with potential for access by sustainable modes.
- Dinas Powys has good potential accessibility by non car means.
- Metro improvements and bus priority/ service enhancements.
- Walking and cycling improvements.
- Highway junction/ off line capacity and road safety improvements.
- Environmental improvements.
- Interchange improvements in services and facilities.
- New Wales rail franchise.
- Cardiff Capital Region City Deal.

Following a review of the baseline context data, and feedback from the stakeholder workshop and public consultation the opportunities have been identified as illustrated in Table 14.

*Table 14 WelTAG Stage One Identified Opportunities*

| Reference | Opportunity |
|---|---|
| O1 | Proximity to major employment and services means large volume of transport movements to and from Cardiff, from Dinas Powys and Barry and Vale |
| O2 | Significant facilities and services in close proximity with potential for access by sustainable modes |
| O3 | Dinas Powys has good potential accessibility by non car means |
| O4 | Metro improvements, including more frequent rail services |
| O5 | Bus priority and service enhancements |
| O6 | Walking and cycling improvements |
| O7 | Highway junction/ off line capacity improvements |
| O8 | Road safety improvements |
| O9 | Interchange improvements in services and facilities |
| O10 | New Wales rail franchise |
| O11 | Park & Ride facilities |
| O12 | Promotion and marketing of all transport modes |
| O13 | Reduce the adverse environmental impacts of the transport system |
| O14 | New development to be accessible by sustainable transport modes |

## Identification of Constraints

The constraints of the study area have been identified to assist in ensuring that the identified objectives and options are realistic and take into account the nature of the study area. The draft constraints as presented at the stakeholder workshop and public consultation are as follows:

- Traffic issues related to being on strategic corridor and difficult to solve alone from measures in Dinas Powys
- Policy context (which is also an opportunity)
- Potential need for third party land to deliver improvements
- Funding availability

Following a review of the baseline context data, and feedback from the stakeholder workshop and public consultation the constraints have been identified as illustrated in Table 15.

*Table 15 WelTAG Stage One Identified Constraints*

| Reference | Constraints |
|---|---|
| C1 | Traffic issues related to being on strategic corridor and difficult to solve alone from measures in Dinas Powys |

| | |
|---|---|
| C2 | Policy context (which is also an opportunity) |
| C3 | Potential need for third party land to deliver improvements |
| C4 | Funding availability |
| C5 | Location of existing services and facilities within Dinas Powys (which is also an opportunity) |

## 4.3 Objectives

### Identification of Objectives

The objectives for the intervention have been derived from general and transport-specific objectives as set by the Welsh Government. A summary of the Welsh Government's over-arching transport objectives is presented in Section 2 including those from the Wales Transport Strategy and Well-being of Future Generations (Wales) Act 2015. The development of the objectives for the intervention has also taken into account particular issues and opportunities identified within the study area as set out in Section 3. The outcomes were presented as a list of draft proposed objectives at the stakeholder workshop for discussion and are as follows:

- Support sustainable connectivity in Cardiff City Region
  - Improve efficiency, reliability, resilience, and connectivity of movement (people and freight by sustainable modes).
- Facilitate economic growth
  - Promote inclusive, integrated and affordable access to key services and employment.
  - Address issues of over-capacity on travel modes.
- Improving Health and Well-being
  - Improving and promoting active travel (both recreation and necessary trips).
- Improved Safety and Security
  - To improve actual and perceived safety and security of travel by all modes.
- Benefits and Minimised Impacts on the Environment
  - Improve local and global environment (natural and built) and minimise negative impacts
  - Adaptation to the effects of climate change.

Following a review of Welsh Government policy and feedback from the stakeholder workshop and public consultation the objectives have been identified as illustrated in Table 15.

*Table 16 WelTAG Stage One Identified Objectives*

| Reference | Objectives |
|---|---|
| Objective 1 | **Support Sustainable Connectivity in Cardiff City Region**<br>• Improve efficiency, reliability, resilience, and connectivity of movement (people and freight) by sustainable modes<br>• Reduce community severance in Dinas Powys including improvements to local connectivity |
| Objective 2 | **Facilitate Economic Growth**<br>• Promote inclusive, integrated and affordable access to key services and employment.<br>• Address issues of over-capacity on travel modes. |

| Reference | Objectives |
|---|---|
| Objective 3 | **Improving Health and Well-being**<br>• Improving and promoting active travel (especially recreation, employment and school trips)<br>• Improve air quality and reduce noise pollution within the community |
| Objective 4 | **Improved Safety and Security**<br>• To improve actual and perceived safety and security of travel by all modes |
| Objective 5 | **Benefits and Minimised Impacts on the Environment**<br>• Improve local and global environment (natural and built) and minimise negative impacts<br>• Adaptation to the effects of climate change<br>• Improve air quality and reduce noise pollution within the community |

## Verification of Objectives

The objectives have been verified to determine how they contribute to:

- Resolving problems of the study area;
- The Wales Transport Strategy outcomes; and
- The Welsh Government's Strategic Priorities.

Table 17 illustrates the extent to which the objectives address the identified transport problems. The appraisal demonstrates that each of the identified problems are directly addressed by at least one objective.

*Table 17 Relationship of Objectives to Problems*

| Objectives | Potential Problems | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 |
| 1 | ++ | ++ | ++ | ++ | ++ | +++ | ++ | ++ | + |
| 2 | ++ | ++ | +++ | +++ | ++ | ++ | ++ | ++ | 0 |
| 3 | + | + | + | + | + | 0 | ++ | + | + |
| 4 | + | + | 0 | 0 | + | ++ | 0 | 0 | +++ |
| 5 | ++ | ++ | ++ | ++ | ++ | + | ++ | ++ | 0 |

Table 18 shows a positive relationship between the objectives and the WTS outcomes.

*Table 18 Objectives Relating to the WTS Outcomes*

| Wales Transport Strategy Outcomes | | Objectives | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| Social | Improve access to healthcare | + | +++ | 0 | 0 | 0 |
| | Improves access to education, training and lifelong learning | + | +++ | 0 | 0 | 0 |
| | Improving access to shopping and leisure facilities | + | +++ | 0 | 0 | 0 |
| | Encourage healthy lifestyles | 0 | 0 | +++ | 0 | 0 |

| Wales Transport Strategy Outcomes | | Objectives | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| | Improve the actual and perceived safety of travel | + | 0 | 0 | +++ | 0 |
| Economic | Improve access to employment opportunities | + | +++ | 0 | 0 | 0 |
| | Improve connectivity within Wales and internationally | + | 0 | 0 | 0 | 0 |
| | Improve the efficient, reliable and sustainable movement of people | +++ | +++ | ++ | 0 | ++ |
| | Improve access to visitor attractions | + | +++ | 0 | 0 | 0 |
| Environmental | Increase the use of more sustainable materials | 0 | 0 | 0 | 0 | +++ |
| | Reduce the contribution of transport to greenhouse gas emissions | + | 0 | ++ | 0 | +++ |
| | Adapt to the impacts of climate change | + | 0 | ++ | 0 | +++ |
| | Reduce the contribution of transport to air pollution and other harmful emissions | + | 0 | ++ | 0 | +++ |
| | Improve the impact of transport on the local environment | + | 0 | ++ | 0 | +++ |
| | Improve the impact of transport on our heritage | 0 | + | 0 | 0 | +++ |
| | Improve the impact of transport on biodiversity | 0 | 0 | ++ | 0 | +++ |

Table 19 shows a positive relationship between the objectives and the Strategic Priorities as set out in the Wales Transport Strategy.

*Table 19 Objectives Relating to the Strategic Priorities*

| Strategic Priorities | Objectives | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Reducing greenhouse gas emissions and other environmental impacts from transport | 0 | ++ | ++ | 0 | +++ |
| Integrating local transport | ++ | +++ | ++ | + | 0 |
| Improving access between key settlements and sites | +++ | +++ | 0 | 0 | 0 |
| Enhancing international connectivity | ++ | 0 | 0 | 0 | 0 |
| Increasing safety and security | + | 0 | 0 | +++ | 0 |

## 4.4 Developing Options

The next stage of the WelTAG process is to develop options that alleviate the identified problems and achieve the objectives.

At the workshop stakeholders were asked to identify and discuss potential options to improve the strategic transport network for Dinas Powys, including corridors from Biglis Roundabout Barry through Dinas Powys, to Cardiff via Leckwith, Cogan and Penarth. A number of proposals were generated (including a do-minimum) in advance of the stakeholder workshop. These options were derived from analysis of the recent policy documents, mainly the Wales Transport Strategy and the Well-being of Future Generations (Wales) Act 2015, as well as previous studies and a review of the baseline conditions.

The proposed options as presented at both the stakeholder and public consultation workshops for discussion were as follows:

- OPTION A: Do-minimum
  - Appraise options against a Do-Minimum Scenario
- OPTION B: Enhanced Rail Services and Facilities
  - Passenger services
  - Interchange facilities
- OPTION C: Enhanced Bus Services and Infrastructure
  - Bus priority measures
  - Bus service frequency/ capacity
  - Infrastructure enhancements
- OPTION D: Enhanced Walking and Cycling Connectivity
  - Improved connections to key destinations
  - Improved crossing facilities
  - Cycle storage at interchanges and key services and facilities
- OPTION E: Highway Improvements
  - Road safety improvements
  - Junction capacity improvements
  - Bypass/ offline highway infrastructure
- OPTION F: Combination of Modal Options

Following the discussions by stakeholders and feedback stemming from the public consultation, the refined long list of options considered in this WelTAG report are as detailed in Table 20.

*Table 20 WelTAG Stage One Proposed Options for Appraisal*

| Reference | Option |
|---|---|
| A | Do-Minimum |
| B | Enhanced Rail Services and Interchange |
| C | Enhanced Bus Services and Infrastructure |
| D | Enhanced Walking and Cycling Connectivity |
| E | On-line Highway Improvements |
| G | By-pass |
| F | Multi-modal Option |

# 5 Data Source

## 5.1 Overview

In accordance with the WelTAG guidance this section summarises the data sources used in and to inform this WelTAG Stage One: Strategic Outline Case.

## 5.2 Data Sources

The sources of data used within this Stage One appraisal are as follows:

- AECOM (2014) Mid and North Wales – 2011 Journey to Work Analysis
- Capita Dinas Powys to Cardiff Corridor Bus Priority Measures (2015)
- Cardiff Capital Region Metro Study (2013)
- City Population (2016) – https://www.citypopulation.de/php.uk-wales.php?adm2id=W06000014
- Highways Impact Assessment, Vale of Glamorgan Local Development Plan Background Paper (2013)
- National Rail Enquiries - http://www.nationalrail.co.uk/
- National Transport Finance Plan (2015) and Evidence Base
- Network Rail - http://www.networkrail.co.uk/wp-content/uploads/2016/11/South-Wales-investment-map.pdf
- Office for National Statistics (2011) 2011 Census
- Office of Road and Rail (2016) Estimates of Station usage 2015-16
- Rail Engineer – Cardiff Area Signalling Renewal - https://www.railengineer.uk/2016/02/28/cardiff-area-signalling-renewal/
- Railway Technology – Cardiff Area Signalling Renewal (CASR) Project, United Kingdom http://www.railway-technology.com/projects/cardiff-area-signalling-renewal-casr-project/
- Rapid Transport for Cardiff: Scoping, Feasibility, Engineering and Economic Study (2013)
- South East Wales Transport Alliance (Sewta) Rail Strategy (2013) (Jacobs)
- South East Wales Transport Alliance (Sewta) Regional Bus and Community Transport Network Strategy (2014)
- South East Wales Transport Alliance (Sewta) Regional Transport Plan (2010)
- Sustainable Transport Assessment, LDP Background Paper (2013)
- Traveline Cymru - https://www.traveline.cymru/
- Vale of Glamorgan Council (2013) Deposit Local Development Plan 2011-2026
- Vale of Glamorgan Council (2013) Local Development Plan 2011-2026: Sustainable Transport Assessment
- Vale of Glamorgan Council Local Transport Plan 2015-30
- Vale of Glamorgan Council (2013) Vale of Glamorgan Deposit Local Development Plan (2011-2026) Proposals Map Depost Plan - https://www.valeofglamorgan.gov.uk/Documents/Living/Planning/Policy/LDP-2013/02-LDP-Proposals-Map-2013.pdf
- Wales Transport Strategy (2008)
- Well-being of Future Generations (Wales) Act 2015

- Welsh Assembly Government (2016) Welsh Transport Planning and Appraisal Guidance (WelTAG) (draft version, June 2016)
- Welsh Government (2013) Active Travel (Wales) Act 2013
- Welsh Government (2015) Active Travel (Wales) Act 2013 Annual Report 2015
- Welsh Government (2014) Welsh Index of Multiple Deprivation - http://gov.wales/docs/statistics/2015/150812-wimd-2014-summary-revised-en.pdf

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# APPENDIX C

## Stakeholder Consultation

# Stakeholder Worksop

## 7th March 2017 – Stakeholder Attendance List

| Organisations Represented |
|---|
| Vale of Glamorgan Council |
| Arriva Train Wales |
| Dinas Powys Community Council |
| Sustrans |
| Cardiff Bus |
| Welsh Government |

## Summary of the Stakeholder Feedback Received at the Workshop

### Option A – Do-Minimum

| Strengths | Weaknesses |
|---|---|
| Reduce journey times with programmed road improvements | Funding for bus services and infrastructure reducing |
| Cheapest in the short term | |

### Option B – Enhanced Rail Services and Infrastructure

| Strengths | Weaknesses |
|---|---|
| Have the capacity to facilitate the movement of greater quantities of people (compared with bus) | Poor accessibility for the disabled in particular |
| Two existing stations strategically located within the study area which would take pressure off the road network | Limited vehicular parking provision at stations |
| Potential mode shift from car – environmental benefits | Lack of secure cycle parking at stations |
| Potential to provide shorter journey times by rail to key destinations such as Cardiff | Poor quality of carriages |
| Potentially fill gaps in the existing public transport service frequency | Expensive ticket prices |
| Better journey comfort compared to bus | Lack of information at stations |
| Increased frequency of services | Security issues , poor lighting sand surveillance |
| Growing patronage | |
| Improvements set out in the METRO proposals | |

## Option C – Enhanced Bus Services and Infrastructure

| Strengths | Weaknesses |
|---|---|
| Dinas Powys is located on a strategic road between Barry and Cardiff, as such use the existing highway network infrastructure | Lack of services and frequency, especially during the evening periods and weekends |
| Encourage modal shift to bus | Public perception of bus |
| More sustainable than car travel | Journey times are unpredictable as buses are stuck within the congestion |
| Bus quality is improving in general | Quality of the journey experience – buses typically slower and less comfortable than car and buses lack facilities such as toilets, refreshments etc. |
| Accessible and inclusive | Lack of service information at bus stops |
| Relatively economic fares (vs typically higher rail fares) | Lack of maintenance of bus shelter and stops |
| Flexible (route and frequency) | Poor connectivity with Penarth |
| Increased patronage would allow bus companies to put on extra services without ongoing subsidy requirements | Lack of accessibility at bus stops (i.e. raised kerbs), Capacity issues for disabled people and people with push chairs |
| Bus shelter upgrades | Improvements to bus services only apply significantly if significant highway improvements are undertaken |
| | The existing highway infrastructure may not have sufficient width to accommodate bus priority measures / potential land issues |

## Option D – Enhanced Walking and Cycling Connectivity

| Strengths | Weaknesses |
|---|---|
| Flat topography | Lack of safe route between Barry and Dinas Powys |
| Within close location to local services and facilities and Cardiff further afield | Lack of existing walking and cycling infrastructure |
| Inclusive | Limited cycle parking within Dinas Powys, including at schools or the rail stations |
| Potentially improve active travel journeys – in particular to schools | Lack of safe cycle routes along the road |
| Increase the accessibility of the A4055 through Dinas Powys | Land ownership issues |
| Most children in local schools live within walking distance | Parents have safety concerns with the existing walking routes to schools |
| | Perception of road safety is poor |

| Strengths | Weaknesses |
|---|---|
| | Lack of walking routes along Cardiff Route connecting Barry |
| | Limited crossing points along Cardiff Road |

## Option E – On-line Highway Improvements (Including a by-pass[1])

| Strengths | Weaknesses |
|---|---|
| Universal benefits for cars, buses, goods vehicles and active travel modes | Delivery of new infrastructure would have high capital investment |
| A by-pass could potentially alleviate traffic congestion and pollution within the built up/ urban area of Dinas Powys | A by-pass would potentially displace and exacerbate existing traffic congestion |
| Improving existing infrastructure such as the removal of pinch points can be potentially low cost | Potential to encourage more road traffic |
| Improve road safety | Local environmental impacts |
| More reliable journey times | Potential to by-pass local communities |
| Improve access to key services and employment | Poor network resilience |
| | Highway only improvements do not encourage a shift to sustainable modes |
| | Potentially new road freight has disproportionate impact on the infrastructure |
| | Require the purchase of land (cost and time implications) |

## Option F – Strategic Park and Ride

| Strengths | Weaknesses |
|---|---|
| Reduces the number of vehicles travelling through Dinas Powys | Reliant upon an increase in capacity of the existing rail network |
| Offers the opportunity for modal shift | The proximity to the rail stations in Dinas Powys |
| Potential site would be located on Council owned land | Could encourage those currently travelling via active travel modes to drive |
| Offers the opportunity for transport interchange between various modes (including interconnectivity with cycling facilities) | |

[1] The option for a by-pass has been separated for the WelTAG Stage One: Strategic Outline Case Report

## Option G – Multi-Modal Option

| Strengths | Weaknesses |
|---|---|
| A combination would work if all other options (highway improvements, public transport services etc.) all feed in together | Long term could be deterred |
| Quick fixes to strengthen existing infrastructure and services | |
| Offers package of solution both short and long term | |
| Encourage individuals to leave their car at home one day a week, travelling via a sustainable mode | |

# AGENDA

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**SUBJECT**
**Dinas Powys Transport Network Stakeholder Workshop**

**DATE**
7 March 2017

**LOCATION**
Parish Hall, Dinas Powys

**ORGANISER**
Matthew Fry

**PARTICIPANTS**
To be appended to minutes

**START**
4:00 PM

**OUR REF**
UA009577

**CHAIR PERSON**
Janice Hughes
T 02920 926770 M 07912 395747
E janice.hughes@arcadis.com

**MINUTES BY**
Chad Collins

**COPIES TO**

| ITEM | | WHO |
|---|---|---|
| **1.** | **Introduction to the Commission** (10 minutes) | |
| 1.1 | Welcome and Introductions | VoGC |
| 1.2 | Study overview | Arcadis |
| 1.3 | Initial stages of the study | Arcadis |
| 1.4 | Format of the Workshop | Arcadis |
| **2.** | **Problems, Opportunities and Constraints** (30 minutes) | |
| 2.1 | Overview | Arcadis |
| 2.2 | Group discussion | All |
| 2.3 | Feedback/ questions | |
| **3.** | **Setting Objectives** (20 minutes) | |
| 3.1 | Overview | Arcadis |
| 3.2 | Group discussion | All |
| 3.3 | Feedback/ questions | All |
| **4.** | **Identifying Options** (40 minutes) | |
| 4.1 | Overview | Arcadis |
| 4.2 | Group discussion | All |
| 4.3 | Feedback/ questions | All |
| **5.** | **Summary and Next Steps** (10 minutes) | Arcadis |

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# Dinas Powys Transport Network

## WelTAG Stage One Workshop | 7th March 2017

Incorporating

EC HARRIS BUILT ASSET CONSULTANCY

Hyder

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# Welcome and Introductions

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# Overview

# Overview

- Study to develop and appraise potential options for improving the strategic transport network for Dinas Powys
- Considering the network from the Biglis Roundabout, Barry through Dinas Powys, to the Cogan junction – by all modes of travel
- WelTAG (Welsh Transport Planning and Appraisal Guidance) Stage One to arrive at a strategic outline case for further consideration of options
- Guidance for the Strategic Outline Case:
  - Identifies the issue that needs addressing supported by evidence;
  - Establishes objectives;
  - Develops a long list of possible solutions, including non-transport interventions;
  - Assesses a long list of options against the objectives;
  - Assesses a long list of options against the impacts criteria; and
  - Selects a short list of options to take forward to the next stage.

# Initial Stages of Study

- Baseline review – current policy, data analysis, existing transport provision
- Stakeholder workshop – to inform WelTAG Planning Stage
  - Identification of problems, opportunities and constraints
  - Setting of objectives
  - Identification of options
  - Options discussion

# Workshop Format

- Three sessions with presentation, group discussion and feedback:
  - problems, opportunities and constraints
  - Setting objectives
  - Identifying options
- Summary and next steps

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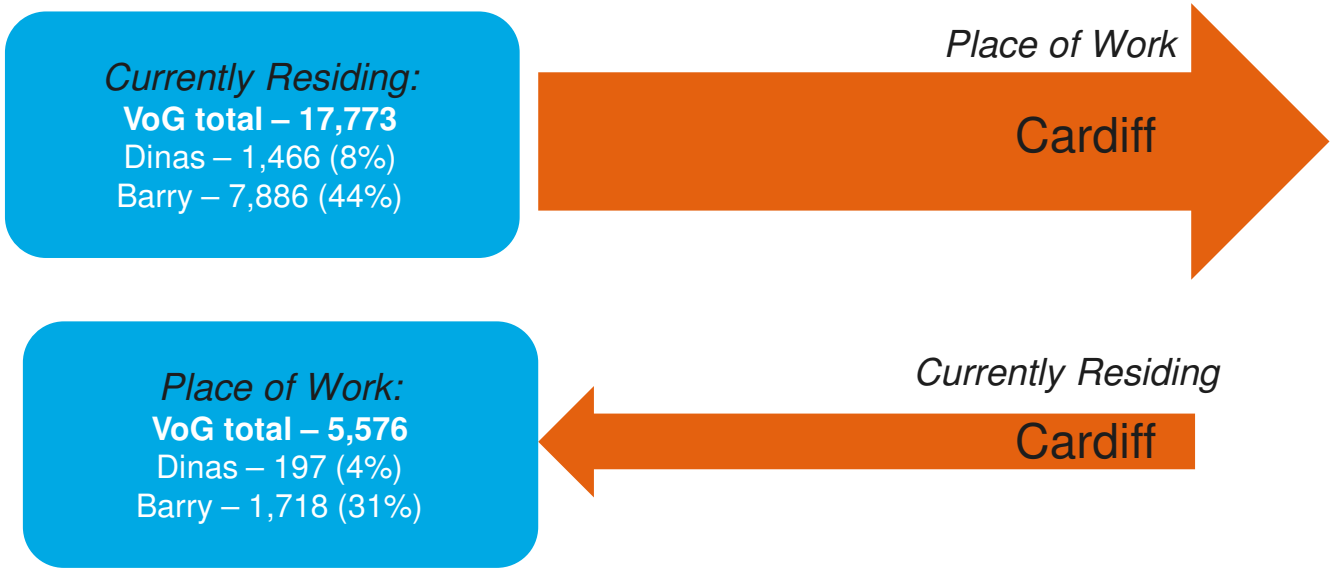
# Problems, Opportunities and Constraints

# Problems:

- Proximity to major employment and services means large volume of transport movements to and from Cardiff, from Dinas Powys and Barry and Vale

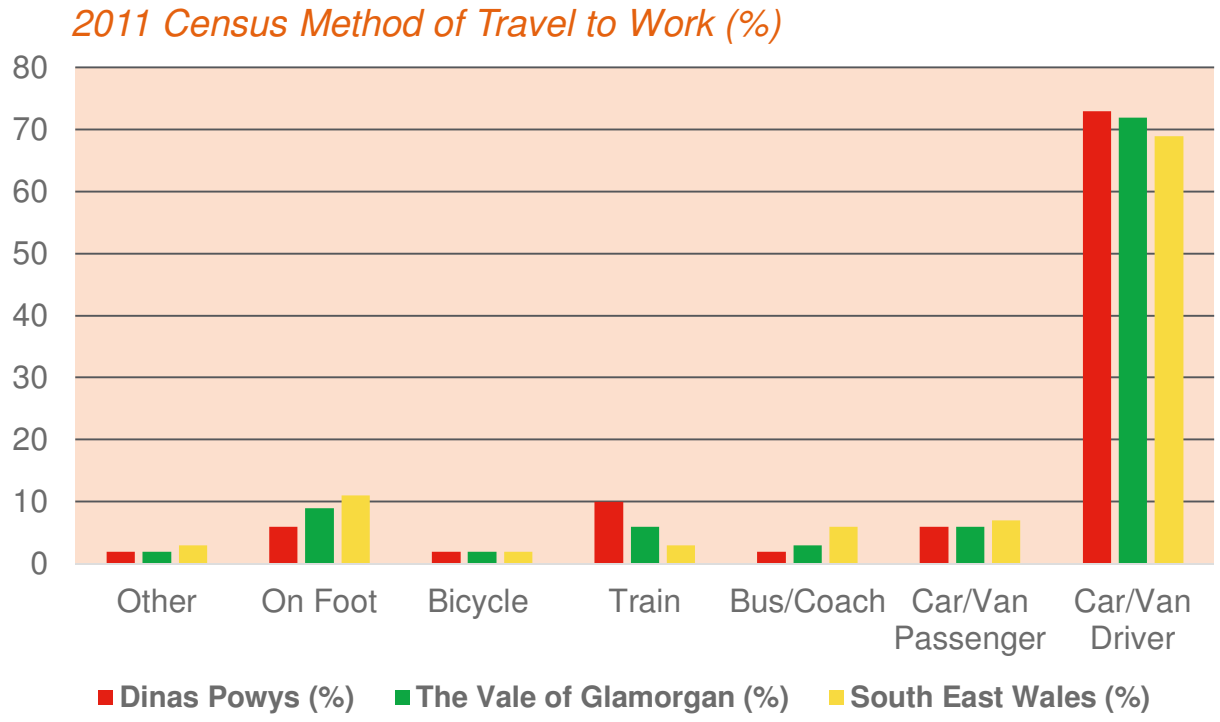
*2011 Census Location of Usual Residence and Place of Work*




*Note: The places have been represented by SOA – Mid Layers*

# Problems:

- Larger percentage of people driving to work than SE Wales (although also more by train)



# Problems:

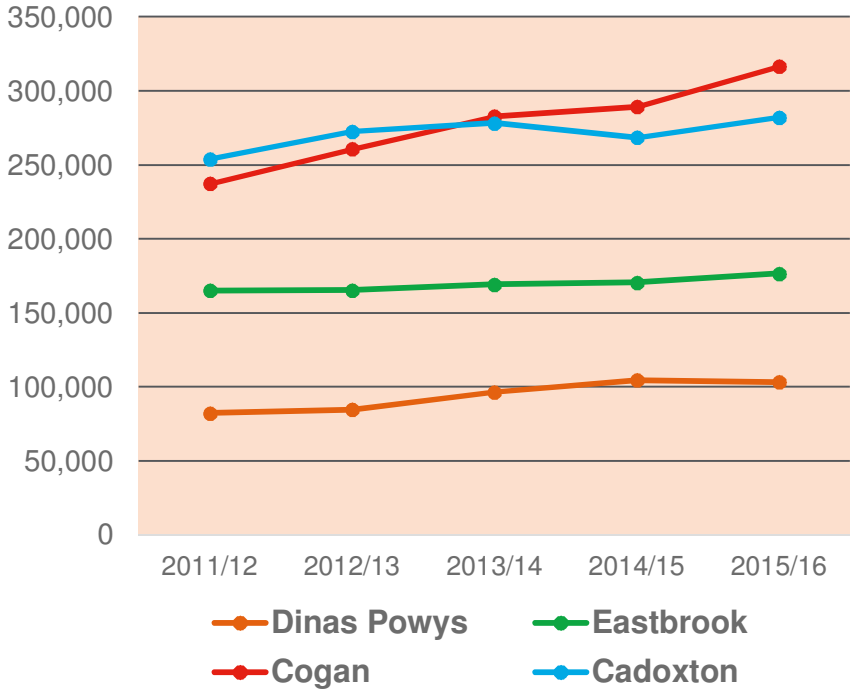
- Frequent rail services with increasing patronage but potential overcrowding issues

*Dinas Powys Rail Station Frequencies*

| Destination | Journey Time | Frequency |
|---|---|---|
| Cardiff Central | 13 mins | 4 per hour |
| Barry | 11 mins | 4 per hour |
| Bridgend | 46 mins | 1 per hour |

*National Rail Enquiries*

*Rail Station Patronage (2011/12 to 2015/16)*




*Office of Road and Rail – Station usage 2015-16 data*

# Problems:

- Limited facilities at stations for interchange (cycle and car parking)

*Eastbrook Rail Station Car Park*

*Potential car parking along Station Road for Dinas Powys Rail Station users?*

# Problems:

- Relatively frequent bus services – approximately 10 bus services travelling into Cardiff per hour (Monday-Friday) but potential for overcrowding
- Limited bus priority measures means buses are subject to congestion

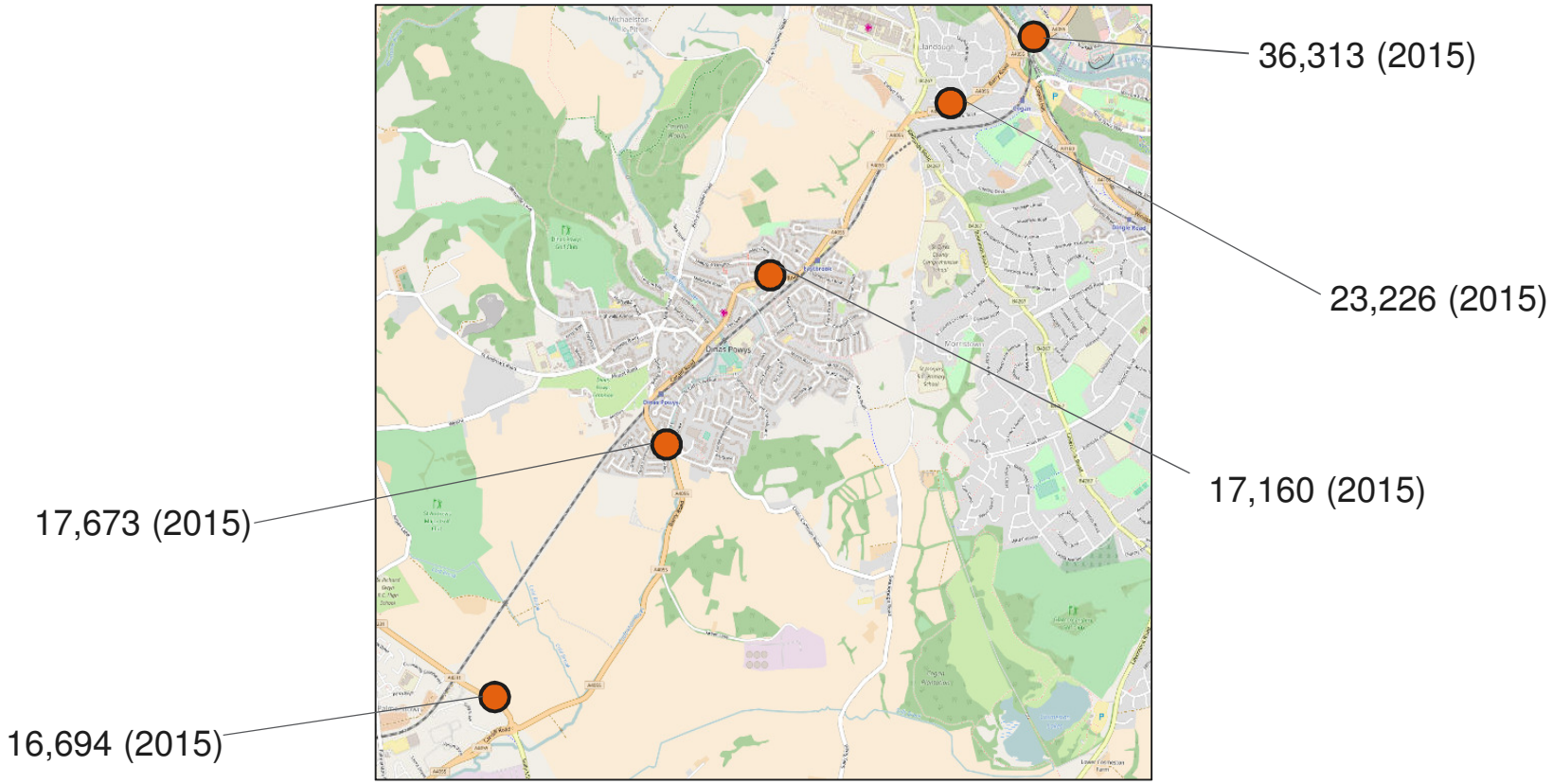
*Dinas Powys Local Bus Services*

| Bus No. | Route | Monday – Friday | Saturday | Sunday |
|---|---|---|---|---|
| **89A** | Nat West Bank – Cardiff | 2 hours | 2 hours | - |
| **89B** | The Institute - Cardiff | 2 hours | 2 hours | - |
| **92** | Castle Avenue – Cardiff | 30 mins | 20 mins | 1 hour |
| **92B** | Castle Avenue – Cardiff / Cardiff – St Luke's Avenue | Daily | - | - |
| **93** | Morrison's – Cardiff | Hourly | Hourly | - |
| **94** | Morrison's – Cardiff | 30 mins | 30 mins | Hourly |
| **95** | Winston Square – Heath Park Way | 30 mins | 30 mins | 2 hours |
| **304** | Cardiff – Barry | Hourly | Hourly | 2 Hours |
| **95A** | Cardiff – Cardiff | Hourly | Hourly | - |
| **95B** | Windsor Arcade – Cardiff | Hourly | Hourly | - |

*Traveline*

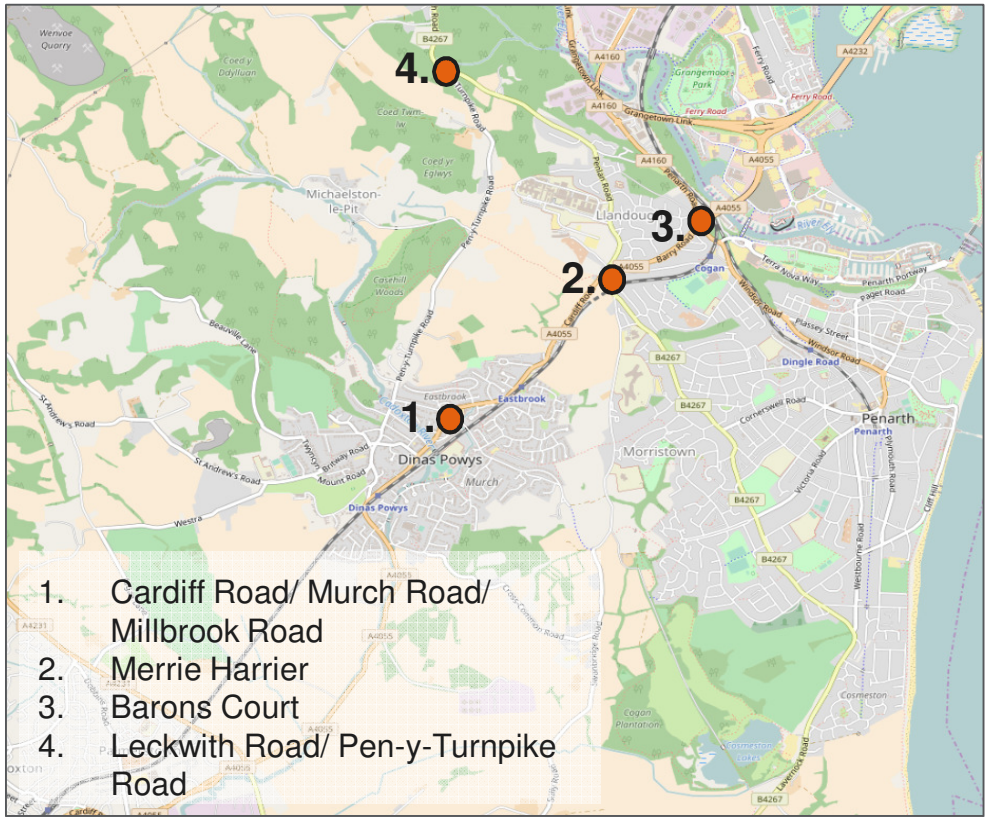
# Problems:

- High Annual Average Daily Traffic (AADT) flows through Dinas Powys – similar flows from the south and through Dinas Powys indicate significant level of through trips



# Problems:

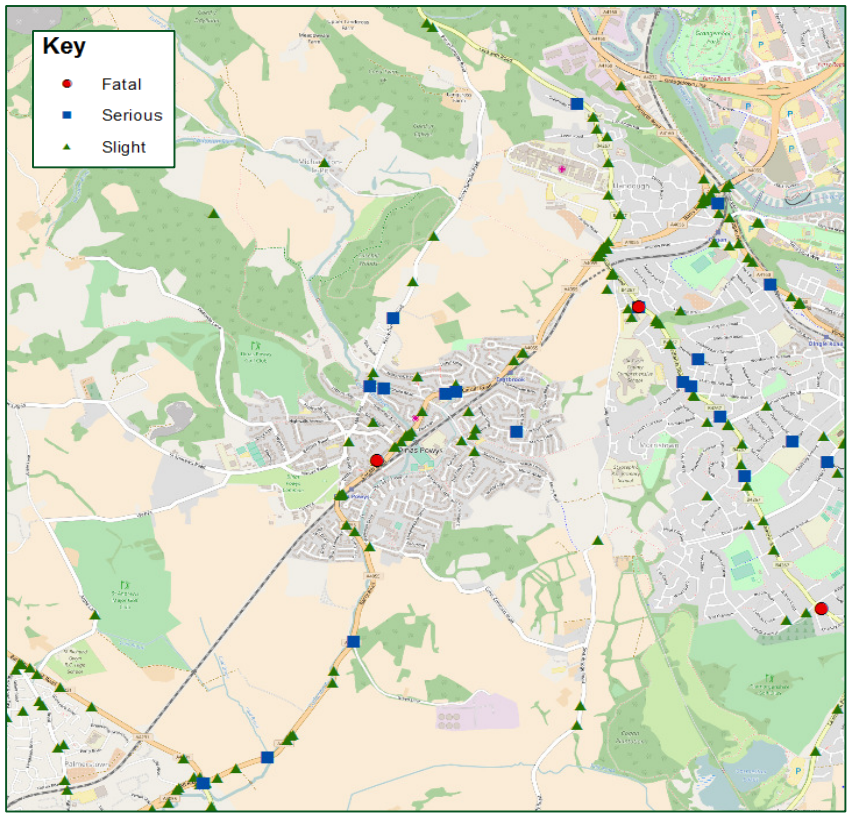
- Four junctions forecast to be over capacity in the 2026 future year



# Problems:

- Issues of accidents within Dinas Powys

*Accidents by Severity (2011-2015)*



# Problems:

- A4055 presents a potential barrier to movements within the community and local access to schools and services

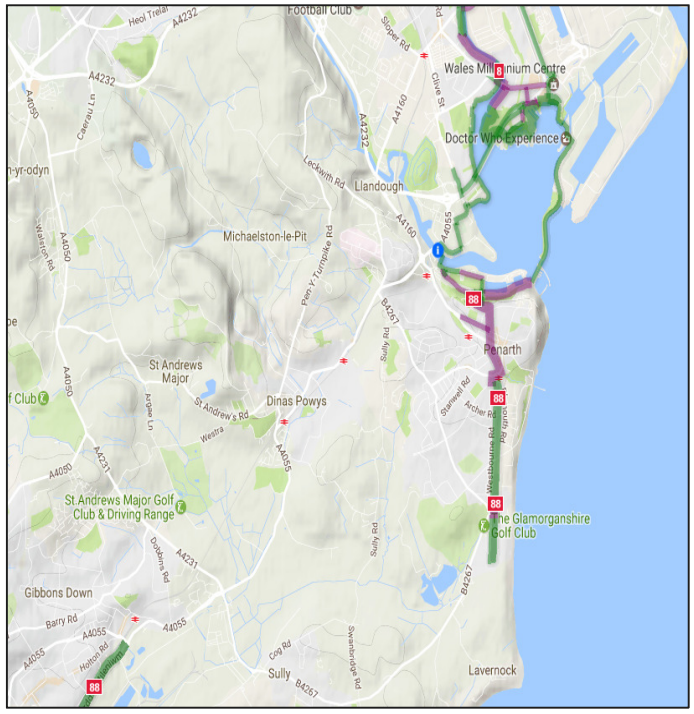
  Limited and poor walking infrastructure on some sections of the A4055

  Some of the bus stops are of poor quality with limited facilities

# Problems:

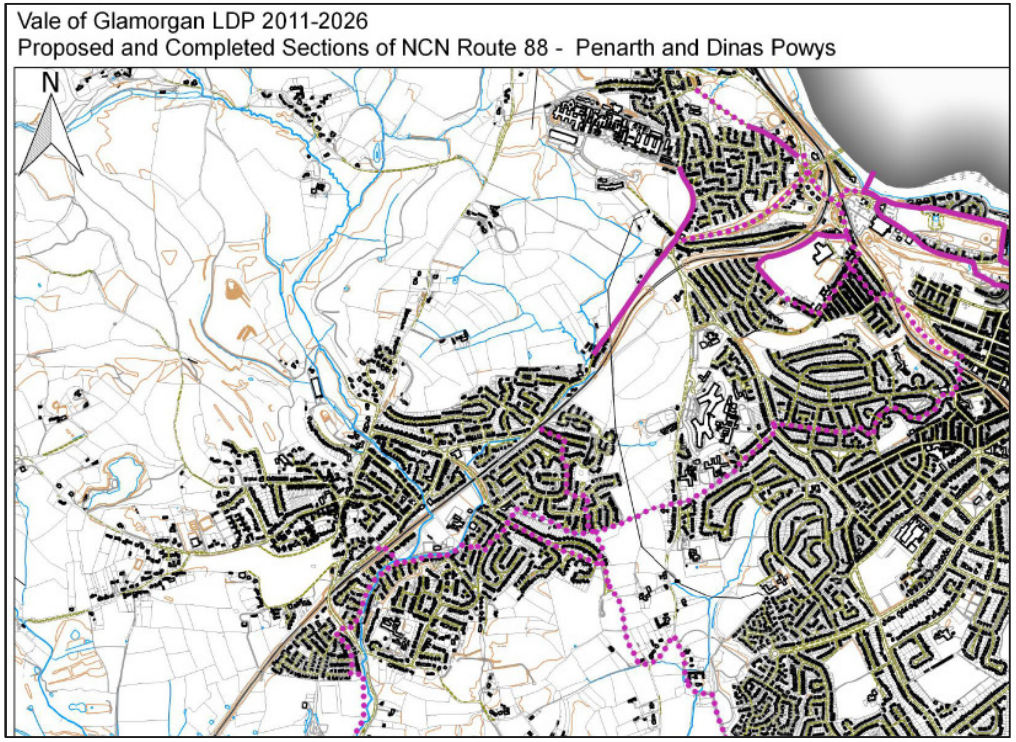
- Poor connectivity by walking and cycling between Dinas Powys and Penarth, Llandough and Barry

*Local Cycle Network*




*Sustrans*

*Proposed and Completed NCN 2016*

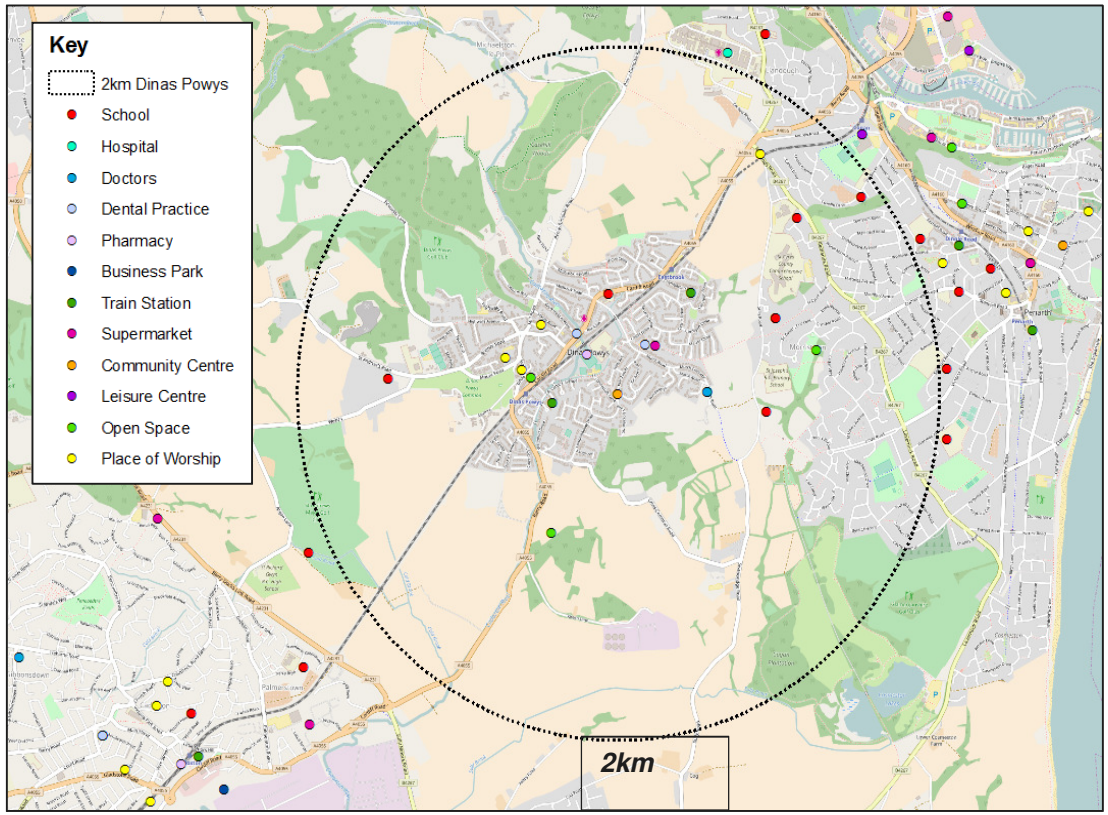



LDP Examination Papers 2016

# Opportunities:

- Significant facilities and services in close proximity with potential for access by sustainable modes

*Access to Local Services and Facilities*



# Opportunities:

- Dinas Powys has good potential accessibility by non car means
- Metro improvements
- Bus priority and service enhancements
- Walking and cycling improvements
- Highway junction/ off line capacity improvements
- Road safety improvements
- Interchange improvements in services and facilities
- New Wales rail franchise agreement in 2018 could be an opportunity to increase services and passenger capacity

# Constraints:

- Traffic issues related to being on strategic corridor and difficult to solve alone from measures in Dinas
- Policy considerations of Local Development Plan
- Potential need for third party land to deliver walking and cycling facilities
- Funding availability

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# Setting Objectives

# Draft Proposed Objectives:

- **Support sustainable connectivity in Cardiff City Region**
  - Improve efficiency, reliability, resilience, and connectivity of movement (people and freight by sustainable modes)
- **Facilitate economic growth**
  - Promote inclusive, integrated and affordable access to key services and employment
  - Address issues of over-capacity on travel modes
- **Improving Health and Well-being**
  - Improving and promoting active travel (both recreation and necessary trips)
- **Improved Safety and Security**
  - To improve actual and perceived safety and security of travel by all modes.
- **Benefits and Minimised Impacts on the Environment**
  - Improve local and global environment (natural and built) and minimise negative impacts
  - Adaptation to the effects of climate change

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# Identifying Options

# Modal options

- **Do- Minimum**
  - Appraise options against a Do-Minimum Scenario
- **Enhanced rail services and facilities**
  - Passenger services
  - Interchange facilities
- **Highway improvements**
  - Road safety improvements
  - Junction capacity improvements
  - Bypass/ offline highway infrastructure
- **Bus services and infrastructure**
  - Bus priority measures
  - Bus service frequency/ capacity
  - Infrastructure enhancements
- **Enhanced walking and cycling connectivity**
  - Improved connections to key destinations
  - Improved crossing facilities
  - Cycle storage at interchanges and key services and facilities
- **Combination of modal options**
  - Multi-modal option?

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# Summary and Next Steps

# Summary and Next Steps

- Outcomes:
  - Discussion of problems, opportunities and constraints
  - Objective setting
  - Option identification and discussion
- Next steps:
  - Appraisal of long list of options/ interventions against objectives and impact criteria
  - Stage one report suggesting options for further consideration

## Thank You

# APPENDIX D

## Public Consultation

# Dinas Powys Transport Network Study
## Public Consultation Event Feedback Form

Below is an initial list of the transport options identified to address the transport issues within the study area. Please feel free to add any comments, including any potential strengths, weaknesses and issues which you may have for each option. If there are other options which have not been included please add them in the final box.

**Do-Minimum** *(if things remained the same)*:

**Enhanced Rail Services:**

**Highway Improvements:**

## Improved Bus Services and Infrastructure:

## Enhanced Walking and Cycling Connectivity:

## Combination of Modal Options:

## Are there any additional Options to consider?

Please leave the completed form on the table or with a member of Arcadis / Council staff.

**Thank you for your time.**

**IMPROVING STRATEGIC TRANSPORT FOR DINAS POWYS (WelTAG STAGE ONE: STRATEGIC OUTLINE CASE)**
**SUMMARY OF PUBLIC CONSULTATION RESPONSES (MONDAY 13th MARCH 2017)**

| **Do-Minimum** | **Responses** |
|---|---|
| The village will be gridlocked/ backing up to Barry | **11** |
| Too dangerous/ safety concerns | **9** |
| Not a realistic option/ more is required | **7** |
| Pollution | **3** |
| Things to get far worse until at a standstill | **1** |

| **Enhanced Rail Services** | **Responses** |
|---|---|
| Larger trains with more carriages/ frequency (greater capacity due to overcrowding peak periods) | **41** |
| Vehicle parking at stations/ nearby | **12** |
| Expensive ticket prices | **8** |
| New/ modernised stock required | **7** |
| Frequency is OK | **4** |
| With the Park and Ride | **3** |
| New rail station between Dinas Powys and Barry with large car park (Park and Ride) | **2** |
| Improve station facilities (i.e. shelters) | **2** |
| Disabled/ pram access (Eastbrook Station in particular) | **2** |
| Drop-off area at Dinas Powys Station does not exist | **1** |
| Cycleways to station/ station access | **1** |

| **Highway Improvement** | **Responses** |
|---|---|
| By-pass | **42** |
| Reduction in HGV travelling along Cardiff Road (weight restriction through Dinas Powys) | **14** |
| Safety/ speed restrictions (i.e. signage) | **11** |
| Limit parking at shops and schools and illegal parking (restrictions required) | **7** |
| Traffic calming (Pen-y-Turnpike Road) | **6** |
| Free-up unused bus lane (Merrie Harrier junction) | **6** |
| Road surface (potholes) | **5** |
| Cycle safety (dedicated routes) | **3** |
| One-way system | **3** |
| Improvements to Station Road | **1** |

| **Improved Bus Services and Infrastructure** | **Responses** |
|---|---|
| More reliable/ frequent services (to Cardiff and Penarth) and during evenings and Sunday services | **18** |
| Bus shelters and improved information and infrastructure (kerbs) | **9** |
| Bus service route to new Health Centre and circular route around village | **7** |
| Bus lane to be used more often (Merrie Harrier) | **6** |
| More bus lanes needed (buses held up in congestion) | **3** |
| Payment methods (contactless/ Oyster card system) | **2** |
| Affordable tickets | **2** |
| Additional smaller 'minibus' style services around Dinas Powys | **2** |

| **Enhanced Walking and Cycling Connectivity** | **Responses** |
|---|---|
| Improve the footpaths/ cycle infrastructure in Dinas Powys (especially Cardiff Road and connections to Barry and Penarth routes) i.e. including kerbs, lighting and signage | **32** |
| Improve road safety for cyclists and pedestrians (Cardiff Road in particular) | **20** |
| Disabled access | **4** |
| Offers reduced pollution | **3** |
| Footways needed Pen-y-Turnpike Road | **2** |
| Bridge over the rail line across the common | **2** |
| Dedicated cycle route to join the new cycle path on east side of village to the Merrie Harrier junction | **1** |
| Connect cycle path from Merrie Harrier to the Pont-y-Wren bridge, traffic extremely dangerous at present | **1** |
| More pedestrian crossings (in particular Dinas Powys end of cycle path when coming from Llandough) - Child safety crossing from Ashpath to St Cyres | **1** |

| **Combination of Modal Options** | **Responses** |
|---|---|
| New rail bus interchange on outskirts of Dinas Powys linked with Park and Ride facility | **4** |
| By-pass including cycle and bus lanes | **2** |

| **Are there any additional options to consider?** | **Responses** |
|---|---|
| Should consider restraining number of new houses being built | **2** |
| [Promote] electric vehicles to reduce pollution | **2** |
| Improving bus provision of secondary school children to Penarth could significantly improve perception of public transport and reduce car use at the end of the day | **1** |

| Ref No. | Do-Minimum | Enhanced Rail Services | Highway Improvement | Improved Bus Services and Infrastructure | Enhanced Walking and Cycling Connectivity | Combination of Modal Options | Are there any additional options to consider? |
|---|---|---|---|---|---|---|---|
| 117 | | | Reduction of heavy goods/ traffic using Cardiff Road.<br>*By-pass essential.<br>Parental parking for Infants/ Nursery School should be limited.<br>Parking outside [COULD NOT READ] should be stopped on opposite side - yellow lines are no policed. | Bus service route to new Health Centre and a circular route around village. | * Cycle/ footpath between D.P. and - safety<br>* Connect above through D.P. via a dedicated cycle route to join the new cycle path on East side of village to the Merrie Harrier.<br>Connect cycle path from Merrie Harrier to the Pont-y-Wren bridge - traffic extremely dangerous at present | | |
| 119 | Improve all road surfaces - lots of dangerous<br>potholes in Pen-y-Turnpike and also Cardiff<br>Road.<br>Improve/ reinstate street lighting<br>Build by-pass to ease traffic congestion - through traffic Barry-Cardiff | More coaches at peak times.<br>Too expensive for 'usual' customers (i.e. w/ o prejudice benefits. | See [COULD NOT READ] convenience.<br>By-pass.<br>Road surfaces. | Needs to be more reliable - tried to go to work on bus due to injury - Dinas Powys to Heath; takes over 1 hour; calling back office waited 1 hour plus for a bus to arrive.<br>Post schedule and [COULD NOT READ].<br>For bus services at shelters. | | | |
| 115 | If things STAY THE SAME!! The village will be<br>GRIDLOCKED!! The by-pass is URGENTLY NEEDED!! | GOOD service currently.<br>Lights on the walk way from Dina's Powys (Barry side).<br>Larger trains i.e. more carriages but tis is down to the<br>'franchise operating service' and people will still DRIVE! | More SPEED RESTRICTION SIGNS NEED TO BE ON THE A4055 AS YOU COME INTO DINAS especially by Bryn-A-Dan as they seem very small 'always accidents' and peter out. | The bus lane that was put in on Cardiff Road is rarely used!<br>More frequent service to Cardiff and Penarth.<br>Time restrictions on the bus lane like in other cities and villages. | Cycle Route to be improved along the A4055 to Barry and footpaths. | | * Building more houses on Caerleon Road is only going to make things worse. As well as the extra houses that have already been built in the village and behind St. Andrews school the by-pass! Needs to be of uppermost importance first and foremost.<br>* The residents of Dina's can only try, we won't hold our breath.<br>I moved here in 1989 and they were talking about the by-pass then: We live in hope!! |
| 118 | | | Volume of traffic through Dina's is very heavy at all times but especially at rush hour times! - A by-pass is essential.<br>Reduce heavy goods vehicles!!<br>Parked cars for infant part of school cause problems at start and end of school day - an accident waiting to happen.<br>Potholes on Cardiff Road - both ends of village need sorting! | Provide bus service to new health centre. | Walk/ cycle path out of Dina's to Barry. | | |
| 71 | | | New road by-pass to reduce pressure.<br>Had to walk in the town. | | Cycling is too dangerous, busy roads, not safe. | | |
| 3 | | Longer trains and better carriages and increased capacity. | Extra street lighting needed at approach pathways to Eastbrook pedestrian rail crossing. | | | | |
| 105 | | | Footpath on Pen-y-Turnpike Hill.<br>Reduce traffic on Pen-y-Turnpike and traffic calming. | | | | |
| 104 | Not and option. | More Park and Ride places. | By-pass<br>Has a study been done on number of cars cutting through station Road and Britway Road?<br>Britway Road is a constant flow at peak times, supposed to be 20mph but cars go much faster. There should be more 20mph signs painted on road and flashing speed signs | Too many bus lanes being constructed along Port Road. Very wide pavement and bus lane makes main highway too narrow. | Cycle track needed towards Barry. | | Should consider restraining number of new houses being built i.e. Barry docklands site, Sully, D.P. St. Cyres site etc. |
| 70 | | | Roundabout at Merie Harrier junction and Barons Court, free up unused bus/ cycle lane to (Merrie Harrier) for all vehicles. | | | | If these are implemented, there may be no need for a by-pass. If a by-pass is implemented, it needs to connect at Leckwith interchange not at the Merrie Harrier/ Barons Court. |
| 14 | Make sure new housing on St. Cyres sire does not compromise 'by-pass' road route - keeping that option available in the future. | We need another railway station between Dina's Powys and Barry with a large car park (Park and Ride) Longer trains, more cycle-friendly and disabled friendly/ new updated carriages. | We need a 'by-pass' link road, Cardiff to Barry - like the dock road near Barry Docks office - with cycle and pedestrian paths alongside road, a cycle and pedestrian link from Dina's Powys (e.g. to end of March Crescent/ Health Centre) | By-pass' - need new bus route. (spot where cycle/ pedestrian link lanes in from Dina's Powys.<br>Bus to health centre from village. E.g. mini bus - stops by Llandough Hospital, to station, health centre, centre of village. | Can hardly get out of Dina's Powys on a bike without risking life on the road or getting bogged down on muddy foot path to Penarth/ Cosmeston. Need better bike path link to Penarth and Barry. | by-pass'/ with cycle lane and train/ bus Park and Ride between Dina's Powys and Barry. | Electric Vehicles - buses to reduce pollution.<br>Better co-ordinated but and train services (on one integrated timetable). |

| Ref No. | Do-Minimum | Enhanced Rail Services | Highway Improvement | Improved Bus Services and Infrastructure | Enhanced Walking and Cycling Connectivity | Combination of Modal Options | Are there any additional options to consider? |
|---|---|---|---|---|---|---|---|
| 101 | Somehow improve traffic problems on main road through D.P. | Frequency O.K.<br>Improved and modernised stock required. | A reduction in traffic running through D.P. urgently required.<br>By-pass ideally. | | Walking/ cycling path desperately needed between Dinas Powys and MacDonald's roundabout Barry.<br>Dangerous to walk. | | |
| 115 | We need a by-pass we live in hope! | | | | | | |
| 116 | We need a by-pass we live in hope! | | | | | | |
| 109 | Better rail service in evenings after 9pm. | Speed bumps on Busway Road have meant more people use Mount Road to circumvent the bumps creating danger for these children and others using playground.<br>Layby used by buses and recently as building sire creating potholes and arising grass boundary along Mount Road.<br>Enforce speed limits in village. | Better service from D.P. to Penarth. No easy means of getting from D.P. station to Penarth by bus.<br>Buses cancelled but no signage to inform.<br>Bus shelters to not provide much shelter. | Pavement on Cardiff Road going west from station is too narrow, overgrown hedges, and too dangerous for walking as vehicles accelerate after the bridge. | | | |
| 110 | Bar HGV's<br>Consider one-way system to increase travel time for those passing through the village.<br>Enforce speed levels - but not bumps. | More trains in evening - post 7pm<br>Better quality trains needed.<br>15 min gap during day is adequate. | By-pass is a complete red herring. Use the money to improve public transport - buses in particular i.e. more buses, better shelters, more reliable service.<br>Bar HGV's from Cardiff Road - and enforce it - the culprits are regulars (e.g. S & H Haulage). | More buses. Whoever says 10 per hour is on the wrong planet. | | Cycle path Dinas - Barry, walkway Dinas - Barry - These can share. | Do note entertain the by-pass. Far too costly and idealistic.<br>Use the money to solve all the other problems. |
| 72 | | | | In the Murch where I live the first bus to Penarth s 7:30am. The next is 8:20am. After that it is 9:50am. A gap of 1 hour 30 minutes. I am sure no other service around here has such a gap. Also one an hour is ridiculous , if one breaks down as they do, you have to wait another hour before the next one which is no fun in the cold weather. | | | |
| 19 | | | All for by-pass | | | | |
| 5 | Concerning that this is top box!<br>Provide opportunities for public to be informed about funding routes, possibilities and to dismiss options… contribute to thinking of proposals.<br>1. Facilitate pedestrian, healthy mode of transport.<br>2. Invest in excellent kind of rail transport [COULD NOT READ] subsidise.<br>3. Build alternative roads, East - West, to relieve Dinas Powys of heavy traffic volume, / busy volume, speeding cars and bikes.<br>4. Population/ housing increase - develop infrastructure. | | | | | | |
| 112 | | | | | | | Why no [COULD NOT READ] In Murch? More of population over there can't park in village to come here. |
| 111 | Not an option | Insufficient carriages, standing only during peak periods (sometimes cannot get on train!)<br>Improve station facilities.<br>Drop off at Dinas Powys station does not exist. | Update model including ALL developments in Dinas Powys and include Pen-y-Turnpike<br>Improve safety for cyclists<br>Reduce speed<br>Stop 'RAT RUN' through D.P. village centre.<br>*If Dinas Powys not approved allow for all possible developments | There are not 10 buses/ hour. The 93 green [COULD NOT READ] Penarth takes 1 hour to Cardiff. | Insufficient room on Cardiff Road for cycle lanes - dangerous.<br>Some footways are less than 1.8m wide on Cardiff Road, substandard. | Must consider ALL developments in Dinas Powys including residential, commercial, industrial and others. | According to 2014 study approx. 6000 vehicles [COULD NOT READ] leave Cardiff Road in Dinas Powys and presumably use Pen-y-Turnpike. This must Also be included in any study, so that it has real worth. Not to do this will be unacceptable. |
| 17 | Not an option!<br>Things will get far worse until at a standstill. | Yes with regard to frequency and capacity.<br>Better shelters. | Yes link road via Biglis roundabout to Leckwith.<br>Accessible kerbs. | Improve - Frequencies<br>Improve evenings and Sunday service<br>Better shelters. | Safe walking/ cycling path along A4055 between Cardiff Road, Bigliss roundabout (McDonalds) and Dinas Powys. | Rail link bus for Dinas Powys. | Public Transport info. |

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| 11 | Short term, cheaper, to develop filter roads at Barons Court and Merrie Harrier Junctions.<br>Promote train and bus connections for getting to work and PARKING OPPS!<br>'Charge' housing developers to contribute to infrastructure for roads, school etc. development. | PROMOTE RAIL AND BIKE USE!!<br>Link Rail, Bike, Car (and parking) transport.<br>Open up Cogan for Penarth - Cardiff runs - for those in lower Cogan developments - URGENT.<br>More carriages on Barry route.<br>Reconnect Sully to Penarth/ Cardiff/ Barry! | Harrier and Barons Court Junctions (As above). Filter Roads, and rethink traffic build - up 'hotspots' - relieved by two way/ one way traffic changes?<br>*Also would address pollution issues!<br>* Promote better lane use!! Rethink where hindering flow!<br>(bad at Barons Court Junction!)<br>Other - cars limited to 2 hours am & 2 hours pm. for [COULD NOT READ] small charge cars (and walkers and bikes of course!). ONE WAY! for quick access to East Cardiff! | Smaller buses at off peak times more frequently please. | Yes, more everywhere, especially if off road, shortcuts.<br>Disability alters on agenda too. | | See pervious page - re: Barrage.<br>A complex 'problem' - best may be alternative days for car use!!!...'No traffic' roads by school. (outside the box thinking).<br>Promote healthy walking/ cycling!!! |
| 130 | | | No right turn at end of Pen-y-Turnpike Junction Cardiff Road to Murch. W.M. School and traffic parking problems on [COULD NOT READ] Road. | Totally inadequate service at present. | Not every one can walk or cycling. Not a viable answer. | New by-pass a must for many reasons. | Traffic from Murch not taken into account in this consultation. |
| 113 | Footpath and cycle path from Biglis roundabout. Fatal accident has occurred along this road.<br>7 tonne weight restriction through village. | The only way anyone will be encouraged to use the railway is by improving services, rail stock and reducing fares. We pay the most for rail use throughout Europe? | If no by-pass is an option then introduce a 7 ton weight limit through the village. (Why was Barry Docks link built?)<br>Increase traffic calming measure to reduce speed. Sort out the junction of Cardiff Road and Station Road before fatal accident occurs. (It's just a matter of time). | | Pathway along Station Road to Cardiff Road needs widening and speed reduced to 20mph through village centre.<br>Cycle and footpath from Biglis roundabout to Dinas Powys. | | The heavy goods vehicles using Dinas Powys cause vibration to my house. What is it doing to the infrastructure of the road. |
| 4 | Block Dinas to <u>all</u> traffic from Barry! Make them use Culverhouse Cross route. | Minimum 4 car sets 6 in rush hour?<br>Parking required near stations. | 1. Use bus lane for Llandough traffic.<br>2. Sort out Pen-y-Turnpike Road as too narrow for speed cars to travel its very unsafe for pedestrians. | Share bus lane to ease traffic flow. | Widen Cardiff Road cyclists take their life in their hands by using Cardiff Road pedestrians are constantly 'at risk' as pavements poor or non existent. | Build/ use by-pass ASAP.<br>Divert Barry traffic towards Culverhouse Cross route.<br>Advertise consultations much better. | What will happen when new sewage pipes are put in as 2 years single line working on Cardiff Road will cause everyone to VOTE present councillors <u>OUT OF OFFICE</u>. |
| 106 | 1. Do not allow traffic to turn right at end of Pen-y-Turnpike Road going towards Llandough.<br>2. and conversely NO left turn coming from Llandough onto Pen-y-Turnpike Road. | | * 1. By-pass essential*<br>2. Use the bus lane for traffic leaving Dinas Powys wishing to go towards Llandough.<br>3. Pen-y-Turnpike/ Millbrook Road junction is dangerous. | | | | |
| 2 | | | Weakness - current capacity exhausted<br>Increase in traffic volumes anticipated including vehicle sizes, giving use from development outside of the vale boundaries. | | | | Concerns regarding emissions along Cardiff Road.<br>Those who attend the school and the closeness of notable lorries along the road, constant noise.<br>Lighting along Cardiff Road goes off at night leaving dark spots along pedestrian routes. |
| 138 | | Add some rail carriages. | Through road at top of Murch on to Sully Road and build a spur road at the main Penarth Road from there - this would allow traffic to cut access from Dinas and Penarth. | Better bus services and clearly signed bus-stops. | Not a solution given narrow roads. | | Stagger commuting times through working with Cardiff employers?<br>Change the behaviour of pupils and parents - walk to school?<br>Car sharing scheme. |
| 103 | Ongoing worrier - increasing traffic. | Disabled access<br>Parking - on street parking in Station Road<br>No of carriages - accordingly | Need to improve Merrie Harrier - roundabout junction [COULD NOT READ]<br>Link to be [COULD NOT READ]<br>McDonalds junction improvement - by roundabout [COULD NOT READ]. | Buses mostly empty during the day time.<br>Link to school [COULD NOT READ].<br>Bus route not used. | Pavement inaccessible to key services, no room for cycle path. | | School? |
| 20 | Too dangerous. | | The by-pass is essential.<br>Improvements to Station Road are essential. | | The present situation does not allow for a cycle way! | | |
| 140 | Dinas Powys should be a 20mph village. | | Do away with bus lane at Easbrook and have filter lane to Llandough.<br>by-pass - to reduce pollution at Murch Infant School.<br>Weight restriction on Pen-y-Turnpike. | Zebra crossing/ light controlled crossing → bus stops - Cardiff Road - Brookside. | Where are the cycle paths to and from Barry?<br>If you travel through Sully - you have to keep crossing the road to form cycle path - not safe crossing the road. | | |
| 73 | NOT THE RIGHT QUESTION IT CANNOT REMAIN THE SAME!! | 6 units NOT 2!! | <u>BY-PASS NOW!!</u> | | | | If there was a referendum in the village re: One issue then it would be the by-pass threatened for 90 years! |

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| 173 | | Car parking needed at stations or nearby. | A by-pass would help ease traffic going through Dinas.<br>Too many cars speed. | Less traffic on Pen-y-Turnpike Road.<br>Slow all traffic on Pen-y-Turnpike Road.<br>Bus lane a waste - blocks the flow of traffic.<br>Bring back roundabouts. | Footpath needed on Pen-y-Turnpike Road. | | Not sufficient car parking to leave the car and catch a train. |
| 12 | | | Reroute all HGV lorries/ trailers from Barry to M4 via [COULD NOT READ].<br>Erect gantry's at Barry end and photo any traffic to/ from/ through Dinas, reduce traffic | | | | |
| 172 | | We need longer train on every service so that more people can travel in comfort instead of having to stand and being cramped. | Too many cars trying to find least congested way through the village and using unsuitable routes - Pen-y-Turnpike was never designed for amount of traffic.<br>We need a by-pass before anymore development takes place. | | NO connection to cycle to Barry safely.<br>Dinas Powys is out [COULD NOT READ].<br>Cycling provision in Barry and Cardiff.<br>No crossing at Dinas end of cycle path when coming from Llandough. | | |
| 188 | Roads are gridlocked at peak times. | Trains need to have more carriages at peak times. | Mae Dross 70% o Bobl yn Dinas Powys yn defnyddio car, drafaen I gaerdydd. Mae min o dai yn call ev hadevladv yn I pentref a thw awan, abedd ruain yr defw yddio cer mevedd mae rhid femio ffordd I lav o ger defmyddio heol caerdydd me andon ffordd arail I dethyr o aldan y barri. | | | | |
| 301 | | | | | | | |
| 184 | Too Much Traffic through village and only going to get worse with developments on-ongoing in Barry and the 400 houses planned for Dinas Powys. | Traffic lights needed at Barry Road and Station Road junction. Right turn is very dangerous. | Road from Barry to Dinas Powys at Biglas roundabout left lane should be Turn Left Only. Right lane straight on and right turn would help traffic flow hugely. | | | | |
| 174 | | | | Is the by-pass the answer now? How about the council rolling out some charging points for electric vehicles. The only [COULD NOT READ]. To the by-pass would be better, improved air quality in the village. Which at times is dire! | My doctor (Dr. Lord) suggested I take up cycling to combat late-onset asthma.<br>Have you tried cycling around here? The A4055 between Bryn-y-don and Biglis roundabout is an embarrassment cycle track! It does not currently have a pavement or lighting! | | |
| 132 | Not an option. | More carriages in the rush hours would be great. | I am concerned about the amount of traffic that pours through Dinas Powys from Barry, Sully and Penarth to Cardiff - There are plans to construct many more houses in Sully and Barry with a subsequent increase in cars. I believe that the only solution would be to construct a by-pass which could then take the traffic away from the village. | This will not improve the traffic problems through the village. The bus lane in Cardiff Road was a waste of money, most buses don't use it. | I cycle and use Cardiff and Barry Road.<br>The facilities between Dinas Powys and Barry are non existent. | A by-pass between Barry/ Sully and Cardiff would be the ideal solution and wold reduce the traffic and pollution in the village and along Cardiff Road. | |
| 18 | Traffic will be backed - up to Barry. Traffic doing more than 30mph into Dinas from Cardiff. | | Village - cards parked during day if getting train. Cars parked outside Tesco on double yellow lines and cars either side of Murch Road at school pick up and drop off. Since turning to Longmeadow people in Sunnycroft, Southra Park have major | | | | Not enough publicity for meeting for need of by-pass now. |
| 16 | | Could do with less [COULD NOT READ]. Trains at peak times and better quality of stock. | It would be nice if cars were not queuing outside my house on Cardiff Road for a time in the morning. If they were on a by-pass air quality would be improved. | Getting to Penarth by bus is problematic. I find the GS bus very useful for getting to Cardiff. Quick, efficient and no parking [COULD NOT READ]. | Could do with better dropped kerbs for pushchairs/ wheelchairs e.g. Junction Elm [COULD NOT READ]. Road and Cardiff Road opposite vets. | | Station Road/ Cardiff Road<br>Lots of accidents<br>Poorly designed junction. |
| 134 | Total gridlock - 8a.m. last Friday traffic was stationary in Britway Road, Mill Road, Elm Grove Road. | Platforms already extended for 6 coach trains but Arriva Trains will not put them on (problem with franchise) - negotiate properly next year. Rail link is best option to move peopled from Dinas Powys and Barry to Cardiff. | Need to control speed through the square especially cyclists e.g. on Sunday mornings. They exceed the 30mph limit down Britway and Mill Road!! | | | | |

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| 74 | GRIDLOCK | Would be better if Arrive put on more than 2 coaches in peak periods. Would alleviate extra cars on roads at peak periods 6 would be more in keeping. | BY-PASS NEEDED for all other proposals to have any chance of working. | NO more bus lanes needed. The on we have is very rarely used. | Dangerous if present conditions remain. Cycle tracks are NOT needed and walking is good due to increased traffic load. | | Increased HGV and traffic use via Dinas Powys when the Cardiff Bay link is completed. By-pass is needed improved sewage disposal is needed to cope with increased housing as present sewage farm is over capacity now. |
| 300 | Gyda 11,000 o dai newydd yn y fro dydd y cefyllfa diafiidineth yn aswydus byn 2025. | Angen dysiad a threnau y gelli dibynne amynt. Gorod o oedi al hyn obryd. Ddim yn galla defnyddio trenau I gwydd ag amserau cyfortoaydd trenau I rannau eially slad, achos wethian dydi [COULD NOT READ]. | Byddai hyn o fudd - rhagor o drinau, igyaor a msir. Angen Cogan fedru gwasanau tau Penarth hefyd. | Angen gwella llwybrau beicio. | | 1. Peidio ateilau tai or safle St. Cyres.<br>2. Gwella gwasanaithau dysis and their ffordd.<br>3. Llyddai ddatrys y aasg amhosib and fury olefdd gell baicia ger safloordd bysiau a forsafoedd tren. | |
| 181 | Speed camera on Cardiff Road entering Dinas from Barry. | | Allow Motorcycles in bus lanes in line with Cardiff. Dedicated lane to hospital from Dinas Powys. Improve Sully Road from Penarth, new road to come out Barry power station. | | Connect Cardiff Road (McDonalds) to Dinas Powys cycle route. Dedicated cycle path Dinas to Penarth. | | |
| 183 | Need a by-pass | | Traffic lights @ station junction (Station Road and Barry Road). | | Pavement along Barry Road/ Cardiff road (Dinas Powys to MacDonald's roundabout) | | |
| 182 | | Wait to see final consultation report. | | Good comments left - looking forward to seeing final consultation report. | Good to see that people feel so strongly about community and safety issues. | | |
| 187 | Improve cycle paths/ routes and pavements especially along Cardiff Road. [COULD NOT READ] Crossing at bottom of Llandough Hill to Merrie Harrier, so cycle paths are connected. Allow cars carrying more than one passenger to use bus lane on Cardiff Road up to Merrie Harrier. | More trains/ carriages at rush hour. Go ahead with [COULD NOT READ] of the line. | Pinch point along Cardiff Road ae hazards to cyclists (road narrowing). Better to use [COULD NOT READ] Traffic calming measures e.g. bumps. | | Cycle path needed between Dinas Powys and Barry. | | Pedestrians village square. Don't think a by-pass will improve the traffic filtration or only for a very short while. |
| 185 | Deaths likely. | | By-pass please. | Needs improvement will be very congested with the extra housing proposed. | What about horse riders on the lanes? To get off road safely in time riding between the rat race hours to avoid danger on the Westa lane. | | |
| 147 | | Love the train service. Reasonable cost and frequent trains. Just need more coaches during rush hours. | I don't want a by-pass that will destroy the green space between Dinas Powys and Penarth and that will make congestion even worse at Llandough chapel/ Redlands Road. An improved junction there should be the highest priority. | | Not enough room on trains for bicycles during rush hour so can't use bikes to commute. | | |
| 177 | | More carriages at peak times. Make fairer charges. More expensive to travel from Dinas Powys to station than Eastbrook currently 90p per day! | By-pass. | | Cycle lane between Dinas Powys and Barry currently very dangerous. | | |
| 1 | | | Keep clear on junctions on Cardiff Road? | | | | |
| 195 | | More carriages needed for trains. Reduce fares if people traveling like sardines. | By-pass, By-pass, By-pass! Desperately needed. Dinas Powys cannot cope with traffic traveling through as it is. Congestion dangerous, threatens health, delays everybody. Too many houses built in Dinas Powys, Penarth, Barry with insufficient travel means implemented - more houses? Then we need more roads and transport links to Cardiff. | Don't use the bus - too infrequent and too difficult to use (last time I tried they insisted on exact fare with no facility to give change). | | | Not enough time for this consultation - and meeting too hastily arranged. I know of others who would have attended but didn't have enough notice. I myself have come, but very rushed as not enough notice!! This is very important - More notice!!! |
| 192 | Gridlock, pollution, danger areas. | More carriages are required trains to turn up on time re-connect Penarth to Barry. | Improvement (widening to Pen-y-Turnpike / by-pass. Park and Ride / Caerleon to other areas. | Improve the infrastructure and bus service is instantly improved. | Safer cycle paths on all major roads. | Build less houses in a small village and have minimal in cares in traffic, schools are not so stretched and health services. The Merrie Harriers junction must be sorted perhaps slip roads etc. | |

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| 146 | | There needs to be more carriages during peak periods | By-pass needed. | Impossible without more bus lanes. | An increased number of cyclists would impede traffic flow and people will not give up their cards to cycle to work particularly in [COULD NOT READ]. Weather on during the winter - would you? | Once houses are built over the (formerly) proposed route of the Dinas Powys by-pass the opportunity will have been lost and it is very short sighted not to consider how much the traffic will increase in the future with further housing development in Barry Rhoose and Llantwit Major. | The pressure on the existing road system in this area means that lanes like westra and the Pen-y-Turnpike become very dangerous for cyclists walker and horse riders particularly wince there is no regard at all for speed limits. |
| 150 | | | Need of Dinas Powys by-pass | | Walking and cycle path to Barry needed as road is so dangerous | | |
| 158 | If things remain the same, I think we've waiting for a serious accident to happen on Mill Road. The cars fly down that road and if the road is clear, they put their foot down even more. | | | | Definitely needs an improvement up Pen-y-Turnpike plus all of the pot holes mean cyclists have to go more into the middle of the road. | | |
| 157 | | | | | | | We should certainly pursue the option of a by-pass minor schemes are not enough. |
| 145 | Not an option!<br>Things will get far worse until at a standstill. | Improvements are required, more rolling stock, reduction on fares. | by-pass would be good for the users of Barry and the vale people of Dinas would not use it! | Yes to the above. | Cycling in Dinas Powys is extremely dangerous. | | No through road from Barry roundabout (MacDonald's) to Merrie Harrier junction. Enforced by ANPR cameras. (cheaper and easier than a by-pass) |
| 155 | | Need modern reliable rolling stock! And better signalling infrastructure! | Need a by-pass! | | | | |
| 175 | | Replace heavy rail with tram-trains. New 3rd station by the Murch level crossings at all stations. | No more road building. | Read the bus kerb manufacturers website! Then install appropriate kerbs in appropriate places! | Lind to Penarth/ St. Cyres School. | | |
| 129 | | | Would like to see speed bumps on country lanes to slow down the traffic i.e. Westra Pen-y-Turnpike, Sully Road, as used mainly as cut-through. by-pass PLEASE! | | Would like to think this was an option but roads are too busy, most people work too far away. | Putting up council tax for coming year yet turning more street lights off! Especially new junction from Longmeadow/ Cardiff Road, disgraceful. | Sorry, run my life by car and probably add to the congestion but am well aware of all the issues. Also having horses is a major problem for myself and riding through lanes with people speeding, more signs could help? |
| 128 | Chaos, pollution, accidents, gridlock (air & noise) Frustrated drivers and pedestrians, residents etc. Inadequate transport issues cannot resolve the huge amount of traffic through Dinas. | Not sufficient - a by-pass!! | Not sufficient - a by-pass!! | | This would be a good start and please consider signage for pedestrians, horse riders, cyclists. | More trains would be a good start also! | No a by-pass!! Is the only real credible solution! |
| 148 | | Overcrowding on trains at peak times - increase poor service from 10pm onwards 0 increase carriage frequency. | Volume of traffic increased over last 20 years, particularly following increased house build in Barry. Need to stope lorries on Pen-y-Turnpike (back road in to Dinas 0 narrow road). | | Cycle pathway needed between Dinas Powys and Barry and also walk path, to provide alternative method of travel. | Poor service return from Cardiff (95) with many cancelled buses 4-6pm and reduced service early evening - many people working shifts and therefore rely on services in the evening, as well as daytime. 304 excellent service and would live if tis ran half hourly. Great if bus and rail tickets interchangeable giving clients choice of transport particularly if Park and Ride scheme planned? May need to then look at rail prices as different rail provide between Eastbrook/ Dinas Powys. | |
| 191 | There will be more accidents and more elderly people like me will be unable to get out of our homes. | This would be very helpful to many people. | We really MUST have this. A by-pass is so important. Maybe the square could be traffic free or at least restricted to 20mph. Thank you. | This would be very good for Dinas Powys. The traffic is now too heavy on Mill Road where I live and I am often a prisoner in my own home. | As I cannot get past parked vans and cars on the pavement in Mill Road or venture out into speeding traffic. My Wheelchair does not get around the parked cars on the footways. | My grandchildren have been knocked off their bikes and they must not cycle anymore on Mill Road or in the village. | Traffic calming measures on the square and Mill Road. No pavement parking at all. Speed cameras. A by-pass. Proper pavements. Traffic lights? Crossing? |
| 139 | More carriages on trains at peak times.<br>Make traffic lights by junior school more sensitive to through traffic.<br>More traffic calming measures (humps) on main road to dissuade traffic. | Increased capacity required at peak times. Getting on @ Dinas Powys @ 7:55 means not getting a seat until central so getting on @ Eastbrook means fighting to get on as passengers congregate next to the doors rather than moving down the train. Guards on trains need to take action. Chaos then ensures once train reaches Cogan. | Often buses do not sue the new lane that has recently been built.<br>The road would need to be wider to improve flow.<br>The lights adjacent to the primary school hold up the traffic and don't appear to be sensitive to throughout at off peak times. | Whilst the 95 serves through towards Llandough Hospital at services on the hour and half hour the 304 also serving UHL also travels at approximate half the hour why not at quarter past or quarter to the hour? | Walking from Dinas Powys to Llandough/ Merrie Harrier means subjecting oneself to traffic fumes. The only safe way to travel along the road through the village is by pavement which is dangerous for pedestrians and cyclists. | | Obviously a by-pass would reduce through traffic and make life easier for residents being car, cycle or on foot travellers.<br>However would this just not shift the problems elsewhere and cause loss of farmland or land for leisure? |

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| 197 | Traffic calming needed on Cardiff Road from Merrie Harrier traffic is often travelling well over speed limit approaching down bend. Current warning signal is ignored. Bus lane is wasted as red light at end defeats the object. Bus should have priority over cards without need for extra lights. | More frequent rail services and longer carriages at peak times would encourage commuters to rail over car. Better fare and discounted week/ month cards would be beneficial. Make it more attractive! Businesses in Cardiff should be discouraged from offering discounted parking. Instead staff should be offered subsidised transport passes. Bus and train should be covered on one pair. | Safer cycle route wold encourage more people to ride but local businesses would need to be on board to provide changing facilities. Many bigger companies do but not practical for smaller company employer unfortunately. I don't agree that a by-pass is the answer as there will still be [COULD NOT READ] with traffic volume at Merrie Harrier and pollution levels will still be terrible. Our village will be surrounded with potentially [COULD NOT READ] roads. Think this will also encourage people that would otherwise drive via Culverhouse Cross to re-route through Dinas Powys if now quicker. | See above - Combined bus and rail season ticket. | Local cycle routes are insufficient speed of traffic on Penarth Road is an issue and insufficient awareness of cyclists make it a dangerous route. Cycle lane (of flat and direct) quality would be a bonus. | | |
| 156 | Volume of traffic along Cardiff and Much Roads unsustainable as is will be worse with new development. | Disabled/ Pram access across rails at Eastbrook required. Not sufficient to resolve overall network issue of volume of traffic. | by-pass needed to resolve current congestion on Cardiff and Murch Roads. Especially needed of planned development by new medical centre goes ahead. | More regular and reliable buses needed to Cardiff Bay. Often up to 1 hour late. On own will not resolve traffic volume issues. | Path between Madoc Close and Sully Road needs to be widened. Currently impossible for prams to pass for them to use of busy time. Also for path from Madoc close to near doctors. | Need by-pass - essential, Improved buses next priority. | |
| 151 | Improve Cardiff Road surface - particularly for cyclists enforcement of speed limit through Dinas Powys one way system on Station Road into village. Pen-y-Turnpike not suitable for HGV's. | Longer train/ more carriages. Train operator contracts to include increasing passenger numbers. Park and Ride facilities. Contactless payment across bus and train network. | Shared cycle/ pedestrian footpath on Cardiff Road. Don't build by-pass- will ruin green belt and increase traffic. | More frequent buses. Only 1 per hour direct to UHW hospital a (big employer) better bus connection to Penarth. Oyster type or contactless payment across whole but and train network. | Better cycle lane/ road surface on Cardiff Road. Enforce speed limit. People use mobile phones as they drive up to Merrie Harrier junction. | Don't waste millions on a by-pass. | |
| 176 | 1. By-pass to reduce traffic flow in village and reduce traffic fumes.<br>2. Safe, cycle track from Barry to Cardiff, Barry Moors very unsafe! | Sorry don't use railways on Buses. | Slow traffic coming into village from the West side. No HGV's in village centre or Pen-y-Turnpike Road no parking on Murch Bridge restrict parking on Millbrook Road. Traffic fumes in village now at major problem. | | | | |
| 133 | Will eventually have to move out of Dinas Powys if nothing is done because it gets worse every year. | More carriages at peak commuter times. | Maximum vehicle weight limit of 7.5 tonnes, 20mph along Station Road. Actual speed readers (as opposed to just flashing 30) at either end of the Cardiff Road/ Barry Road - NB: These have been very effective in Carmarthenshire, Cardiganshire and Pembrokeshire. By-pass ASAP or a vastly improved junction system at the Merrie Harrier lights by making a large roundabout operated similarly to Culverhouse roundabout. | Circular route connection Dinas Powys with SULLY and Penarth and Barry. | Widen and illuminate the Ash Path.<br>Less waiting time of for lights controlled crossings. The long wait between Southra and Sunny Croft encourages people to take a chance to get across a road where the speed limits is often exceeded. | | With the large housing developments in Barry it is illogical and dangerous not to have a cycle route from Barry to Dinas Powys and on into Cardiff! |
| 178 | Someone will get badly hurt or killed if the status quo remains. | Yes please! | Now please!!! The village square is now a nightmare for anyone with additional needs what with speeding traffic, pavement parking especially at the tope of Mill Road increasing flow of traffic, no speed cameras or 20mph restrictions. Poor footways. No Penalties for TERRIBLE parking!!! So dangerous. | We need both Cowbridge a by-pass in the 60's we are still waiting! Gridlock is the result on Cardiff Road and often on Mill Road also. Terrible congestion sometimes on Mill Road. | Yes Please! Roads far too unsafe - my kids cannot cycle on Mill Road now after repeated accidents. | Of course!! | Slow the traffic right down through the village square and Mill Road please!! 20mph ASAP. Speed cameras now please!! |
| 142 | 20mph speed limit on Cardiff Road, Murch Road, Longmeadow Drive, Castle Drive and roads leading off Cardiff Road to the church and village square. Improve quality of pavements to make them safe and encourage walking. Put in more dog mess collection boxes and speak to stables to equip horses with appropriate bags. | | A by-pass would g back in the plan and be acted upon ASAP so the land by the new health centre should not be sold for new housing until a decision on the by-pass has been made. Consideration must be given to the infrastructure before new houses are built, especially to traffic around the traffic lights and along Cardiff Road. A potential 600 cars coming up an down Murch Road wold be a nightmare (assuming 350 houses at 12 cars per household) | Improve bus services in the evening. | Quality of pavements is really poor in places e.g. Murch Road. | | |

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| 170 | Make crossing main roads easier e.g. sped up pelican lights for pedestrians. More crossings in e.g. to Bryn-y-Don from new cross common road junction. Speed control on Cardiff Road. | Longer trains most important. Cycle pathway at stations. Easier to take bikes on trains. Improved station access. | DON'T build a by-pass!! Safety improvements Station Road 20mph through the village centre Station Road etc. Potholes/ road surfaces. | More buses to Penarth. More information on buses/ easier ways to pay find out about. | Cycle path to Barry shared cycle/ footpath up Cardiff Road (cross common road and Station Road). Footpaths suitable for scooters/ bikes/ buggies across common so can walk and St. Andrews School. Bridge over railway to common!! | Bike parking at stations. Tickets across different operators more car parking at or near station. | More cycle lanes/ footpaths everywhere!!. |
| 7 | There are clearly major problems in Dinas Powys now and with more housed being built in the vale especially Barry and Dinas Powys more than do-minimum is required. Also important to ensure that benefit of the proposal Metro are not constrained which would happened if do minimum applies. Constraints on trains and rail parking mean public transport can not currently respond to increasing pressures or opportunities. | Enhanced rail services are vital for the long term future of the wider area and to ensure the Metro succeeds. However, the inability to improve rail parking @ Eastbrook means a radical approach is needed. A new bus and rail station with parking on the Barry side of Dinas Powys (near McDonalds?) should be infiltrated. It would provide much better prospects for increasing train (and bus) use by commutes from Barry and Vale. Could provide bus links along Dock link to Culverhouse (and Metro as it develops) and offer P & R improvements to Barry Island. | In the absence of a by-pass there is very limited scope to improve the existing situation in Dinas Powys as issues exist because of through traffic as well as local. Congestion affects buses and emergency services as well as private cars and is encouraging inappropriately high levels of traffic on what should be minor roads as drivers look to avoid/ reduce congestion. Key is to seeks to reduce traffic coming through Dinas Powys which is a main route from Cardiff vale. however train a and bus links other than to Cardiff Central are poor. Also poor linkage other than by road to planned employment areas. | Improvements to bus services will not make a substantial change to commuting at peak time traffic problem unless overall traffic levels can be reduced - that has to be by rail improvement o/ s of Dinas Powys to substantially increase use of the train for commuting. Longer term bus services improvement to provide better access to area other that Cardiff City Centre essential (METRO). Key issue bus delays caused by traffic. | Aim has to be realistic given [COULD NOT READ]. At age of local population. Main pedestrian routes need to be improved in places e.g. safe access for children to Bryn-y-Don as it is essential that route to Doctors surgery are improved through the proposal new housing, cycle provision into and out of Dinas Powys also needs to be improved it is to be an option for more people. I tis currently not safe. however cycling and walking are not options for most commutes or a large percent of the population. | [COULD NOT READ] Must be reducing through traffic and initial employees must be on developing alterations to the private car of commutes from the reset of the vale reducing traffic through Dinas Powys can alter allow other improvements. Priorities should be new rail/ bus interchange on outskirts of Dinas Powys and by-pass should be invested further as provides opportunities for better bus and cycling provision. BUT must be [COULD NOT READ] in the context of Metro. | Improved bus provision of secondary school children to Penarth could significantly improve perception of public transport and reduce car use at the end of the day. Currently buses are insufficient and unreliable in morning and poorly in the evening. As a result of children do not het use to seeing buses as a good choice of making it more difficult to encourage use later in life. Need to think about how [COULD NOT READ] access to areas such as Sully, Barry (other than by train) Penarth, the Bay, Culverhouse etc. can be improved if private car usages to be reduced. Also access to proposed employment areas in Dinas Powys. |
| 196 | Introduce congestion charging, 20mph speed limit from Barry to McDonalds roundabout to Merrie Harrier. Install traffic lights to regulate the flow at Barry McDonalds remove roundabout. Build cycle lane on A4055 from Barry McDonalds M Harrier. Suspend house building in Barry and vale. Develop and implement infrastructure plan over 5 - 10 years | New station at Cardiff Airport. New station at Barry McDonalds. New station at Sully extend from Penarth existing track. Provide Park and Ride at Barry McDonalds station. Improve parking at Eastbrook. Provide parking at Dinas Powys provide Park and Ride at Sully. | Dinas Powys by-pass. Upgrade Leckwith Road link to link road near athletic stadium roundabout Remove McDonalds Barry roundabout. Have multiple access/ exits for all new developments. Improve Cross Common Road. Improve Cog Lane. | Proved buses for old/ infirm can get to doctors at top of Murch Road without relying on taxis and lifts. Ban cars going through Dinas Powys only buses at peak times. Make Dinas Powys an Eco- village reduced emissions better bus services subsides fares on the buses. | For cyclists and walker commuting to and from work to Cardiff is a death trap. The current A4055 would need serious upgrading to allow safe cycling, walking for commuters. How people would walk, cycle from Barry to work in Cardiff? Do you have any data? Percentage of Barry population that would cycle/ walk to work? | by-pass linking Barry (McDonalds) roundabout and Merrie Harrier. Alternative access/ exit routes from Dinas Powys, Barry, Sully and Penarth Housing Developments, with direct access to the by-pass. by-pass route should be in the vales local development priorities and welsh assembly should be informed as such. | Officially declare vale as Eco-vale where only cyclists and walkers are welcome and are prepared to commute as such. Ban all vehicles unless electric powered or eco-friendly. Decommission the A4055 turn into par and ride and cycle lane/ pedestrian lane. |
| 135 | Bus service needed to GP<br>Safe cycling through Dinas Powys<br>More parking needed at Eastbrook station parking needed at Dinas Powys Station<br>Safe cycling through Dinas Powys<br>Vale of Glamorgan Council IGNORES outcomes of public consultations and does what it wants anyway.<br>This probably is a waste of time. | Outcome will be an extra parking space<br>Sewage pipes along Cardiff Road not wide enough to cope with capacity<br>Sewage works in Barry not able to cope with capacity<br>Station car parks full<br>Trains full at rush hour and don't let passengers on<br>People parking on station road | Parking restrictions in village 2 hours<br>by-pass<br>Improve Murch Road<br>Improve junction at Tesco<br>Access Tesco by back entrance<br>Village speed restrictions to 10 miles/ hr<br>One way traffic through village<br>List public footpath at bottom of common linking to Station Road to Mount Road.<br>Access to new houses on St Cyres via a) Cross Common Road<br>and b) via end of Longeadow Drive<br>and c) New Bypass | | Old people do not walk or cycle.<br>They need to be connected to the Doctors surgery up Murch Road via a bus service. | No houses until infrastructure roads are sorted - A4055 and Murch Road are totally inadequate. | By-pass. |
| 125 | Improve footpath's along Cardiff Road and Station Road - safety.<br>Stronger speed restrictions along Cardiff Road around Southern Park entrance. | Footbridge across railway line, linking Bryn-y-dan and the Common for families to be ale to access St Andrews School, without using their cars and for other residents to walk safely to the village | Cycle and footpath along A4055 - both Dinas Powys and Barry. | | | | |
| 186 | Shared transport into Cardiff - only<br>Full cars allowed to [COULD NOT READ].<br>This would roughly cut down the number of cars in Cardiff Road, one of the major bottlenecks<br>HGV's banned from the village. | Four carriages (are not depending on finding in survey results) for communities at peak hours.<br>[COULD NOT READ] newer trains would encourage most travel by train. Car parks at station. | See 1 above.<br>Building a by-pass no improvement.<br>No [COULD NOT READ] House building in this area which only increases the heavy load on the roads. | | A cycle path all the way to the peoples 'Bridge in Penarth, to that cycling safely off road into Cardiff is possible.<br>A cycle path - separate from car traffic not just a designated path on the road to Barry.<br>Ditto for a walking path. | | Improved sense of community - getting together more to support each other rather than for example so much individual single travel in out cars |

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| 193 | I have been injured by passing speeding vehicles including HGVs while walking & cycling on Mill Road and the Square.<br>More such injuries will occur and maybe fatalities especially of young children and people with poor mobility.<br>Vital for the commute into Cardiff. | | Good to have bus lanes and cycle lanes but we do now need a by-pass<br>I would love to see more car sharing initiatives and bus user initiatives<br>I do not have a car myself. | This is important even with walk to school initiatives. A life line for older people and those with special needs. | Really important people can access green space without being splattered across the tarmac on ground under the wheels of a HGV. | This is needed. | By-pass ease Cardiff Road congestion and speed bumps and speed cameras on Mill Road and the Square, traffic lights possibly and much better traffic calming measures. Please give us back our village. |
| 189 | Congestion in the mornings and evenings [COULD NOT READ] Far too high.<br>The safety of people walking with the degree of vehicles is always in question, pollution from cars bumper to bumper is awful and causes health issues. | Not enough carriages at peak times are available.<br>Often people have to stand on the trains, even though the ticket costs include having a seat. | Road surfaces need upgrading<br>Definitely need a by-pass, especially with the increased housing in the area<br>Roads are far too busy with huge lorries travelling through. | Bus services need to be more frequent and easily accessed by disabled and people with push chairs. | Better cycle routes.<br>Cyclists speed through the traffic on the [COULD NOT READ] and middle of the road.<br>Designated areas would help. | | |
| 190 | | More coaches (2 is not enough)<br>Price the same at Dinas Powys station and Eastbrook - currently cheaper from Eastbrook. | A by-pass.<br>Reduction of road noise.<br>No heavy goods vehicles.<br>[COULD NOT READ] Bridge Structure coping traffic behind Caer Odyn<br>by-pass will feed St Cyres schools and new St Cyres housing - back road to Penarth. | Direct route via Canton/ Western Avenue to Heath hospital and Cardiff Met University.<br>A regular bus service to Heath Centre don't qualify for minibus. | Reduce traffic then we can use paths to walk and roads to cycle.<br>Fill pot holes. | Improve crossing<br>Cycling is dangerous with the huge lorries that come through village | We do not want to become the Cardiff South Circular when the link at the Bay to the docks is open and all the traffic will come the quick route. |
| 194 | Someone would be killed. People would not be able to leave their homes. Life would become even worse than it is now. | This would help really I feel as people need to access work in Cardiff etc. | Vital.<br>Dinas Powys has been overlooked for too long. Gridlock on Cardiff Road and speeding traffic all down Mill Road and the Square. Pavement parking really dangerous now. Nobody doing anything. | Yes this is needed. | This is really, really important as I s pollution levels and unsafe footways e.g. Mill Road. | Has to be joint approach. | Traffic wardens to STOP pavement parking. Speed calmers in village Square and Mill Road<br>Traffic calming measures now please. |
| 154 | Too much traffic having to use the Dinas Powys village and Pen-y-Turnpike no safe cycle/ walk route Dinas Powys-Barry. | Passenger capacity at peak am not sufficient - frequently have to wait 2 or 3 trains until able to get on. | Volume of traffic through Dinas Powys is getting worse-levels of pollution a major concern with school at main junction.<br>Frequent heavy lorries using road through Dinas Powys and Pen-y-Turnpike unblock is not wide enough to support this.<br>Traffic using Pen-y-Turnpike to access Llandough causes southern [COULD NOT READ] and delays. | Limited bus service direct to/ from Cardiff to Dinas Powys. Held up is congestion makes this impractical at peak times. 95 service returning to Dinas Powys from Cardiff frequently delayed or non existent. 304 more reliable but not frequent enough. Why do all buses have to go into Llandough Hospital? | No safe cycle or walking route between Dinas Powys and Barry. This should be a priority to provide an alternative to car use for local residents. | A properly efficient rail/ bus service linked to a Park and Ride facility. Combined bus/ train ticket options gives more flexibility and more public transport a more attractive option. | |
| 153 | This is not optional. Consideration needs to be given to residents and other commutes who travel through Dinas Powys [COULD NOT READ] neighbouring towns. | Carriages over capacity - additional required parking is a problem - many commutes parking in nearby street and walking to Eastbrook - no facility at Dinas. | Considerable improvement required in many areas. Road surfaces sub standard around Valley View and Murch Street.<br>Parking is problematic [COULD NOT READ] Vehicles on yellow lines. Junction [COULD NOT READ] Many extra houses proposed by-pass needed to alleviate congestion. | Current bus inadequate services need to be additional and flexible affordable to encourage commuters onto the buses.<br>Also transport for patients using Health Centre. | As a resident of Dinas I try to cycle to work or walk. Traffic is frightening [COULD NOT READ] Speed in numbers.<br>Walking up Cardiff Road opposite Eastbrook - pavement too narrow and the large vehicles travel slowly but within a couple of feet of pedestrians - not a pleasure. | Enhanced rail and buses needed.<br>Creation of cycling route through Dinas. | Problems through Dinas Powys by congestion affects all traffic from neighbouring towns that use this route to Cardiff. |
| 15 | Grid lock in Dinas Powys<br>Increased Pollution<br>Advise economic impact | Improved train services. Increased frequency of service. Modern train sets.<br>More Park and Ride<br>Co-ordinated bus and train services | Existing junction - Mill Road/ Cardiff Road. [COULD NOT READ] Cogan are over capacity<br>Pen-y-Turnpike [COULD NOT READ]<br>Difficult Station Road/ Cardiff Road dangerous | Lack of link up with train.<br>Dirty Shelters No R.T.I<br>More buses/ hours. | City Region. Very concerned about Cardiff focus concerned that investment will be in city and along M4 and Vale will only see investment st St Athan C.W.A.<br>I see no references to environment specific policies. | | |
| 144 | No by-pass continued air pollution continued vibration damage from lorries speeding [COULD NOT READ] houses. Becoming an unpleasant place to live. Pollution is growing already at capacity - transport cannot remain the same. | Extra carriageway needed at rush hour to allow more people to access the service - train often full to capacity by the time it gets to Dinas | By-pass remove traffic coming from Barry would solve 90% of the problems as lorries would no longer be an issue, congestion would be reduced.<br>More people would cycle if they didn't have to deal with current traffic levels, lorries etc. At the very minimum a weight limit should be imposed to protect structure of properties, reduce air pollution etc. from preventing large lorries using village | More buses, more frequently, more directly to Cardiff, more encouragement of Barry residence to use public transport to relieve rat run. | Better lit paths between Penarth and Dinas.<br>A footpath/ pavement between Dinas and Barry (cycle path) that is lit. | If all the suggestions where implemented, believe the village would still reach capacity quickly - our future businesses need to work from house/ local - remove commuting to work altogether (I commute to Penarth, just to come back to Dinas to work). Companies need to help reduce the need to commute. | SUDS - (Sustainable Urban Drainage Systems) need to be a must on new builds at St Cyres or Cardiff Road will flood - links to Redlands Road from new build to help reduce congestion from extra houses. |

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| 137 | Build a by-pass - improve drainage and sewers before building more houses and joining planning for extra school [COULD NOT READ] and GPs and public transport before agreeing to housing. | 4 to 6 units trains at peak times.<br>Extra car parking at Eastbrook.<br>Parking at Dinas Powys station. | Need for by-pass - lorries are getting larger, longer and more of them local traffic is increasing because of extra housing being built-shift through traffic to a by-pass.<br>Pen-y-Turnpike Hill needs a pavement and there is space for it.<br>Traffic calming measures needed in Mill Brook Road<br>restrict further the size of lorries on Pen-y-Turnpike | Several bus routes are a waste of time, just improve number of 95, 93 and 304, allows going to Cardiff is not meeting parking.<br>Provide better bus shelters. | Keep cyclists off main roads and onto tracks. | | |
| 136 | If you do nothing then build no more houses until infrastructure improved. Infrastructure, railway, cycle routes are inadequate for current usage or build the houses and house no cars at all - environmental village sustained by the wonderful transport links [COULD NOT READ] are walks cycles or uses but no transport no cars allowed. | Open station at Airport.<br>Open station at McDonalds a roundabout and puta Park and Ride there.<br>Increase size of Eastbrook station parking makes parking arrangement [COULD NOT READ] Dinas Powys station.<br>Put on 4 carriages during rush hour i.e. between 7.30am and 9 and 4-6pm. | Bus service improved so the old and infirm can get to Doctors surgery at top of Murch Road without relying on help/ taxi or volunteers. | Cycling through Dinas Powys along A4055 improvements need. Not safe cycling from Cardiff Road onto Station Road so dangerous.<br>Old people don't cycle (maybe 1 or 2).<br>So that does not help a large majority of population so relatively unnecessary. | By-pass link between Barry (McDonalds Roundabout) and Merrie Harrier.<br>Protect route if you can't recommend it being built. So future councils will act when funding is available<br>No lorries in Dinas Powys. | Toll booths at entry of Dinas with free usage for locals.<br>Congestion charges. | |
| 152 | The village will be ruined.<br>Are Barry residents being asked these questions? | Larger carriages needed at Peak times. | Yellow lines on road outside the Old Court House to stop cars parking opposite other cars. Concerned about coming out of the new junctions (off Longmeadow) turning points as looking left is a blind spot. Stop all heavy vehicles going through Dinas Powys. By-pass to elevate all above. | A 'small' minibus style bus to go around the village and the Murch. | Pot holes where cyclists are need to be fixed.<br>\|Main road too narrow for cyclists and cars.<br>Not able to walk from Dinas Powys to Barry - cyclists this road extremely dangerous.<br>Dogs mess a problem on paths.<br>More bins needed | | |
| 171 | Grid lock off Cardiff Road and Murch Road - Health Centre is located here Murch Bridge Safety. Hell when the main sewer that runs along Cardiff Road need renewing. Death on the country lanes surrounding Dinas that are now used as rat runs. | Park and Ride expanded at Caerleon.<br>Four cars on all trains in rush hour. The council have used traffic figures that state that this already happens<br>It doesn't [COULD NOT READ]<br>Park and ride at Cogon Tesco. | by-pass<br>Better public transport, more buses and larger trains<br>* Check Cardiff Road classification, Dinas Powys states Cardiff Road is 30% developed not 90%. | More buses are needed.<br>More bus ranks - Sully and Culver and Barry Port Road. | Pavement - cycle path between Dinas and Barry. | Park and Ride Caerleon and Cogan Tesco. | Child safety crossing from Ashpath to St Cyres.<br>Stop development within this area and reduce gridlock until the problem is solved. |
| 141 | The no houses built, Infrastructure is not good enough to sustain traffic flow. It is over capacity. Murch Road will be a nightmare with new houses. There is already an increasing volume of traffic from new houses in Barry. This is increasing month on month. | Need more carriages during peak periods.<br>Need more parking spaces at Eastbrook.<br>Need parking at Dinas Powys Station.<br>Need new rail service that goes via Sully and MacDonald's roundabout with Park and Ride at BP. | Congestion charge for non residents of Dinas Powys<br>Make Pen-y-Turnpike a dual carriageway down onto Penarth Road.<br>Speed restrictions along A4055 and roundabout at Cross Common junction. | Bus service to doctors every 20 mins<br>a continuous bus just for Dinas Powys connecting all points of Dinas with railway and buses during doctors hours with small charge - say 50p. Could be used as school bus service as well. | Connect Dinas to Barry by cycling and connect Dinas to Dinas as safe cycling so children can cycle to school. Otherwise no one extra will use cycles when its not safe to use on Cardiff Road, Mount Road, Longmeadow Drive, Murch Road, [COULD NOT READ] Road, Millbrook Road. | All day bus service, serving Dinas Powys residents. Continuous bus service from top Murch Road down and round Valley View, Millbrook Road up village up to top of Common Beltway Road, down Mount Road, Station Road, along Cardiff Road, Sunny Croft, Southra Park Longmeadow Drive and back up to the Doctors every 20 mins | Reduce speed along Cardiff Road to 20 mph - put in roundabouts at Cross Common and speed restrictions. |
| 179 | If [COULD NOT READ] remain the same the proposed housing developments - cannot be built. | The frequency of trains is adequate-don't need more. However car park is too small, often no room to park, also patrons of 'Royal India' use it as car park. Not enough carriages on existing trains.<br>Diesel fumes from trains are adding to the air pollution in the village especially to children at infants school. Train one side - busy road. Junction the other [COULD NOT READ]. | Murch Road/ Cardiff Road junction - very congested standing traffic at lights - high level of pollution and emissions- Dinas Powys Infant School on that junction, children constantly breathing in fumes, also diesel trains passing behind school. More traffic from new housing developments increasing buses and trains will all add to these unacceptably high levels of pollution. Law suits involving pollution induced asthma in children, all shouting to be upheld in courts. Ticking bomb. Have emissions been measures recently? | More buses and trains will not help everyone get to work. I needed to get to Ely by 7.30 everyday to teach at a school, I would have to take a bus to town then charge and take another out to Ely, all the while transporting boxes and bags full of school work increased Public Transport is not the solution. Everyone has to leave Dinas Powys to shop, need crafts for this to bring back shopping. Even outline shopping brings more delivery vans. | This will not solve the big issues or cut down the volume of traffic. Cycle routes away from main routes may make cycling safer, as bikes on the main roads cause traffic to pull out to pass very dangerous. | Need to tackle the real big issue of traffic congestion, people will not stop using cars, cycle paths, more buses, more trains will not solve the problems. We need by-pass before more housing. | By-pass plans have to be in place before any housing plans at the top of Murch Road can be granted. If housing goes ahead by pass will never be built, and then the problems will be tenfold, Dinas Powys will be in permanent grid lock. |

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| 149 | This is not a realistic option given the current transport issues experienced at Dinas Powys, together with the level of existing and proposed growth in Barry. The level of through traffic are already significant on Cardiff Road and force traffic onto Pen-y Turnpike which is unsuitable for the volume/ speed of traffic. The train service/ infrastructure is good but significantly over capacity at peak times. The am peak services are regularly over crowded sometimes to this point of not being able to board before the service reaches Dinas Powys/ Eastbrook. This position will worsen with the level of development committed/ proposed in Barry. | This is essential as part of any improvement to the current situation. The existing rail infrastructure/ frequency of service serving Dinas is fairly good - but significantly over capacity at am peak in particular. This limits its current use as a viable alternative to travelling by car. I would personally prefer to travel by train, but without being able to wait until a service at 8.55/ 9.10 then it is to a reliable option has significant capacity issues. Given the service starts at Barry and Bridgend the service is regularly full before reaching Dinas. the cost is also prohibitive. It is [COULD NOT READ] for a ticket from Dinas to cost the am as all Barry stops, rather than Eastbrook. Capacity and reliability of service has to be priority. | Cardiff is over capacity from the village to the Merrie Harrier [COULD NOT READ]. This forces through traffic onto less suitable roads, such as Pen-y Turnpike Road which is wholly unsuitable for the volume of traffic speeds. From personal experience my car has been written off on his road during a morning peak journey by another driver. Through traffic is a significant issue from Barry and will only get worse given the level of new development committed and proposed. Improvements are required to the existing road infrastructure/ capacity to facilitate the levels of through traffic to reduce risks of accidents and pollution levels of the current options mentioned by-pass would be the most logical option - considered in the wider context of traffic issues elsewhere in the local network. At a local level heavy goods vehicles travel through the village and roads such as Pen-y Turnpike at speed at increased safety risks - possible consideration of weight limits. | I do not use the bus service - but it should be considered as part of a wider solution to the existing problems. | Connectivity to Penarth/ Barry could be improved. This on its own would not be a solution to the problems, but would assist. Local walking/ cycling routes could be improved by policing parking on pedestrian routes in and around the village Square. | The solution to the existing problems has to be a combination of improvements to a range of model options. Previously comments Vale council that people should use public transport on walk/ cycle rather than drive are not a solution without significant improvement from my own use of model options, would be an attractive choice of capacity reliability and price are improved. As it stands, the service limits it as an alternative to the car. Through traffic its significant and can be expected to increase significantly. The issue in Dinas must be considered in this contract capacity issues are in part as a result of new houses being built in Barry with no improvements to the wider highway/ rail network beyond. Everyday I catch the train from Dinas Powys it is at capacity from those boarding at the Barry Shops (or Bridgend on depending on the service). A by-pass must be considered to take through traffic away from unsuitable roads. | |
| | | | | | | This should be alongside significant capacity improvements to the rail service, particular at am peak. Localised issues including parking and heavy goods vehicles using Pen-y-Turnpike and the Square should also be moved forward. | |

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